DOCUMENT RESUME

ED 390 995 CE 070 387

AUTHOR	While, Alison; And Others
TITLE	A Comparative Study of Outcomes of Pre-Registration Nurse Education Programmes.
INSTITUTION	English National Board for Nursing, Midwifery and Health Visiting, London.
PUB DATE	Nov 95
NOTE	388p.
AVAILABLE FROM	English National Board for Nursing, Midwifery and Health Visiting, Publications Dept., Victory House, 170 Tottenham Court Road, London, England W1P OHA, United Kingdom (12.50 British pounds).
PUB TYPE	Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Comparative Analysis; Educational Research; Foreign Countries; Higher Education; Medical Services; *Nursing Education; *Outcomes of Education; Postsecondary Education; Program Effectiveness; Program Evaluation; *Student Development; Student Evaluation
IDENTIFIERS	*United Kingdom

ABSTRACT

A study compared the outcomes of the three types of nurse education programs offered in the United Kingdom: the registered general nurse (RGN) program, Project 2000 diploma program, and integrated degree program. The research design involved the following: Simulation A (client scenario followed by information-seeking question); Simulation B (video of admission interview followed by care plan development); nonparticipant observation of students in clinical setting; and interviews with students. Ninety-nine subjects participated in Simulation A. They requested a large range of data. A minority used a systematic format, with more integrated degree program participants adopting such an approach as compared with Project 2000 program participants, with RGN program participants falling between. Only half adopted a multifocal approach to their information seeking. Ninety-eight subjects participated in Simulation B. Both the integrated degree and RGN program participants obtained a higher global score, with the Project 2000 diploma participants achieving consistently lower scores in most units of analysis. Ninety-nine subjects participated in the observation element. Integrated degree program participants achieved statistically higher scores than those in the other two programs. Ninety-nine participated in the interview. The client focus of most integrated degree programs participants was evident. A greater professional focus was evident in Project 2000 program and RGN program participants' interview data. (Appendixes contain 310 references and instruments.) (YLB)

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A COMPARATIVE STUDY OF OUTCOMES OF PRE-REGISTRATION NURSE EDUCATION PROGRAMMES

Alison While
Julia Roberts
Joanne Fitzpatrick

Department of Nursing Studies, King's College London

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Research commissioned by the English National Board for Nursing, Midwifery and Health Visiting, London

November 1995

English National Board for Nursing, Midwifery and Health Visiting
Victory House
170 Tottenham Court Road
London W1P 0HA

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Responsibility for the views expressed, issues of interpretation, questions of inclusion and omission, remain always with the Research Team and do not necessarily reflect the views of the English National Board for Nursing, Midwifery and Health Visiting.

A Comparative Study of Outcomes of Pre-Registration Nurse Education Programmes

The Board is pleased to publish the report which provides a comparative analysis of the outcomes of three distinct programmes of pre-registration nurse education at varying stages of programme implementation. The study was conducted at a time of enormous change in the education of nurses and within the wider Health Service. It explores practitioner performance outcomes in terms of patient assessment, care planning and practice intervention. The methodological design attempted to develop an approach to the analysis of performance which was more comprehensive than previously reported in the literature. The similarities and differences of the three programmes of preparation will be of interest to curriculum developers. The authors refer to the role of confounding variables, issues of sample size and programme comparability and advise a cautious interpretation of the findings. These contextual and methodological concerns aside, the report makes a contribution to the important educational debate on pre-registration education.

Through a variety of means the Board ensures that education for practice continues to be relevant both professionally and academically. Research based evidence provides a further important dimension for the development of policy. The findings from all the research commissioned by the Board will be considered with a view to confirming or developing the Boards educational policies.

Maureen

Chairman of the Board

Chairman of the Research & Development Group

Acknowledgements

This study was commissioned by the English National Board for Nursing, Midwifery and Health Visiting. We are grateful to members of the Steering Group for their guidance and support over the three years. Our gratitude is extended also to members of the expert panels for their valuable contribution during the process of instrument development. Further thanks is also due to Mr Peter Milligan, senior applications analyst, for his statistical expertise over the three years. We thank the educational establishments and Health Authorities for their co-operation. Finally, we wish to express our heartfelt thanks to the students who made the project possible and we wish them every success in their nursing careers. A project of this size requires tremendous commitment and we are also grateful to our colleagues who understood our needs at difficult moments.

The Research Team

Professor Alison While, Project Director, Department of Nursing Studies

Ms Julia Roberts, Lecturer, Department of Nursing Studies

Ms Joanne Fitzpatrick, Research Assistant, Department of Nursing Studies

The Steering Group

Mr John Barker, Lecturer, Centre for Educational Studies, King's College London (until June 1994)

Dr David Cope, Occupational Psychologist, Hafren Associates Ltd, Surrey

Mrs Sonia Crow, Assistant Director for Educational Policy (Research and Development), ENB, London (from June 1993)

Ms Peggy Curtis, Nursing Officer (Education), Department of Health, London (until February 1993)

Dr Morva Fordham, Former Lecturer, Department of Nursing Studies, King's College London

Professor Jack Hayward, Senior Research Fellow, Nursing Research Unit, King's College London (until July 1994)

Mr F Holden, Assistant Director for Educational Policy (Research and Development), London (until February 1993)

Mr Stanley Holder, Former ENB Member, London

Ms Linda Hopps, Former Lecturer, Department of Nursing Studies, King's College London (until September 1992)

Mr David Moore, Nursing Officer (Education), Department of Health, Leeds (from February 1993)

Dr Ian Norman, Senior Lecturer, Department of Nursing Studies, King's College London

Ms Edith Parker, Former Principal of the Princess Alexandra and Newham College of Nursing and Midwifery, London (until June 1992)

Professor Sally Redfern, Director, Nursing Research Unit, King's College London

Dr Pam Smith, Lecturer, Institute of Advanced Nursing Education, London

Professor Jenifer Wilson-Barnett, Head of Department, Department of Nursing Studies, King's College London

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Chapter 1 Introduction

From 1989 the United Kingdom permitted three approaches to pre-registration nurse education, namely: the RGN programmes, the integrated RGN degree programmes and the newly introduced diploma level RN programmes. The courses differed in their emphasis regarding the health service work contribution and the depth of underpinning knowledge for nursing practice. Prior to this study no research had been undertaken to compare the outcomes of different forms of nurse preparation in the United Kingdom which is essential for both educational and economic reasons. Against this background the study was commissioned by the English National Board for Nursing, Midwifery and Health Visiting in June 1991 and commenced in August 1991.

1.1 Background to Changes in Pre-Registration Nurse Education in the United Kingdom

The United Kingdom Central Council (UKCC) was established in 1979 to replace the eight bodies overseeing nurse education (General Nursing Council for England and Wales, General Nursing Council for Scotland, Joint Board of Clinical Studies, Northern Ireland Council for Nurses and Midwives, Council for Education and Training of Health Visitors, Central Midwives Board, Central Midwives Board for Scotland, Committee for Clinical Nursing Studies and Panel of Assessors for District Nurses). In the first annual report the UKCC agreed that there was a need:

> "To determine the education and training required in preparation for the professional practice of nursing, midwifery and health visiting in relation to the projected health care needs in the 1990s and beyond and to make recommendations" (UKCC, 1980).

The task was delegated by the UKCC to its Educational Policy Advisory Committee (EPAC) which became the project group for the new development called Project 2000. The most substantial previous review of nurse education was carried out by Professor Asa Briggs and his committee in the early 1970s (DHSS, 1972). This enquiry recommended the adoption of a common core for the education of all nurses with a certificate stage, a registration stage and the possibility of specialised higher certificates. The committee's report was widely discussed inside the profession at the time of publication but no legislation was enacted to effect change in nurse education.

Greater impetus for change was, however, generated by the realisation that demographic and epidemiological trends would inevitably impinge upon health care provision. Like other employers, the health care sector was faced with the difficulty of meeting previous recruitment targets with the fall in the birth-rate between the years 1964-79 (OPCS, 1987). Changes in health care needs were increasingly acknowledged, namely: high levels of preventable mortality (Smith & Jacobson, 1988); increasing chronic illness, disability and handicap (OPCS, 1989); acute health care increasingly involving only episodic institutional care, e.g. day cases (Audit Commission, 1986); future child health care to be in partnership with parents and families (DHSS, 1976); large increase in the elderly population (OPCS, 1987) which would create a demand for long-term support at home for as long as possible (Dept of Health, 1989); and a commitment to transfer all mental health and mental handicap care into the community (DHSS, 1971a, 1971b).

Other factors also created a need for a substantial review of nurse education. Among these was the economic climate which focused attention upon the costs and effectiveness of health and welfare provision; indeed, 1983 was the first year in which there was no growth in the number of employed nurses and midwives (UKCC, 1986). There was also increasing evidence that educational standards were being compromised by the employee status of student nurses and therefore their obligation to fulfil service/manpower needs (Bell, 1983;

Reid, 1985). Such was the pressure for a resolution to the uncertainty that the original two year timetable for the review and the development of a new education framework was reduced to 18 months and in the interim the frustration with what was perceived as a slow statutory response led to the publication of two reports urging educational changes (RCN, 1985; ENB, 1985).

EPAC proposed that the educational framework should be seated in the context of the proposal that there should be three levels of nurse practitioners: specialist nurse, first level nurse and a nurse aid. The committee proposed that nurse education should be based within higher education and that the students should have student status during the three year programme and maximally make a 20% service contribution. Initially EPAC proposed a common foundation programme which was to be followed by a branch programme in one of five specialities (mental health, mental handicap, adult, child or midwifery). These proposals were modified after a consultation period and the new regulations (Statutory Instrument No. 1456, 1989) stated that all pre-registration nurse education programmes must consist of a common foundation programme and normally three branch programmes (ENB, 1990). Midwifery was no longer a branch programme. The regulations further stated that all new courses (i.e. all future courses) must be sited in institutions with established higher education links.

1.2 The Key Characteristics of the Three Approaches to Pre-Registration Nurse Education

The characteristics and expected outcomes of the different education programmes are summarised in Figure 1 on page 8.

1.2.i RGN Programmes

These courses were based upon an apprentice-type model with much reliance upon experience gained in the clinical setting as a means of acquiring knowledge and skills. The adequacy of this model with its assumption that trained nurses would teach and supervise student nurses has been questioned (Ogier, 1981; Orton, 1981; Fretwell, 1982; 1985; Gott, 1983, 1984; Reid, 1985; Jacka & Lewin, 1987). The courses were designed around periods of clinical experience with blocks of theory in a health service education setting focusing upon 'rigid' and 'didactic' hospital focused care (UKCC, 1986, p.12). Underpinning the clinical experience was a major service contribution with student nurses providing 75% of all bedside nursing care (DHSS, 1972) and being integral to service delivery (UKCC, 1986). The combination of theoretical periods with associated practical experience had much to commend it, however, the reality of service allocation often thwarted its realisation. Further, it has been asserted that the emphasis upon the performance of activities with little time for reflection undermined the potential for learning (Chapman, 1980; Orton, 1981; Fretwell, 1982, 1983 a&b; Ogier, 1982; UKCC, 1986; Greenwood, 1993) and the commencement of continuing professional education for a nursing career.

1.2.ii Diploma level R N Programmes

These courses were inaugurated with Statutory Instrument No. 1456 (1989) and have now replaced RGN programmes. The diploma curricula were designed expressly to redress the recognised inadequacies of the RGN programmes and are therefore education-led and involve a service contribution of only 20% during the course. Unlike the RGN students who were health service employees, the diploma RN students have full student status and with the exception of the period of rostered service, are supernumerary during their clinical placements. The UKCC (1986) has stated that the diplomate nurse should be:

> "A 'knowledgeable doer', able to marshal information, to make an assessment of need, devise a plan of care and implement, monitor and evaluate it" (p 5).

Thus the diplomate nurse is expected to demonstrate the application of a sound knowledge base and utilise relevant literature and research to inform practice (UKCC, 1986, 1989). The issues surrounding the introduction of diploma education have been the subject of a completed research project (Jowett et al, 1994).

1.2.iii Integrated RGN Degree Programmes

These courses are based within institutions of higher education and are education-led with the students having supernumerary status during their clinical placements. The slow development of higher education based nurse education, described in a published paper (Fitzpatrick et al, 1993), in part reflected a reluctance to accept the potential value of a highly educated nurse whose principles of practice are derived from a knowledge of research. The courses are generally of four years' duration although recently a limited number of three year degree courses have been validated (ENB, 1991). The curricula are designed to develop the skills of investigating, questioning, defending, evaluating and accepting personal responsibility for professional judgement (Gott, 1982; Altschul, 1983, 1987; Salvage, 1988).

1.3 The Research Context: Recent Developments in Health Service and Educational Provision

Far-reaching changes in the organisation of health service resourcing and management have occurred in recent years, specifically in the areas of funding and care provision. The impetus for such change has its origins in the Conservative administration of 1979 and the perceived need to curb public expenditure (Harrison & Pollitt, 1994). Further stimulus towards change

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has been generated during the intervening years by advances in medical technology (Laing, 1994), the rise of consumerism (DHSS, 1986; Dept of Health, 1991), and both current and projected demographic trends (OPCS, 1987; Robins & Wittenberg, 1992). The end result has been a drive to improve the efficiency of National Health Service administrative practices (Laing, 1994). Specific innovations in the last decade have included the introduction of general management principles, coupled with quality initiatives and the creation of the internal market (Savage & Robins, 1990; Ham, 1992).

The changes produced by such innovations have had repercussions throughout the health service. Of particular importance has been the changing nature of both care needs and provision resulting in a number of key developments including: a decline in the number of acute hospital beds (Ham, 1992); an increased emphasis upon day surgery (Audit Commission, 1990); a move towards home care, coupled with a major shift of resources into community care provision (NHS and Community Care Act, 1990; Glennerster et al, 1992).

The above developments, in conjunction with a move towards greater efficiency in the use of manpower resources within the health service and in particular nursing resources, have led to a period of almost unprecedented upheaval amongst the nursing workforce. Of particular significance has been the introduction of skill mix (Audit Commission, 1985; Dept of Health, 1986) and an increase in staff turnover (Waite & Hutt, 1987; Carr-Hill et al, 1992). Equally, the effects of the Tomlinson Report (Dept of Health, 1992) upon health care provision in London have been extensive and have had repercussions beyond the capital as the consequences of the reallocation of resources are felt throughout South East England in general. Such change has had implications for each of the Regional Health Authorities participating in the current study. In addition, such developments coupled with wider economic and educational imperatives have proved equally important and challenging for the providers of nurse education over this period as they manage the impact of Working Paper 10 (Dept of Health, 1989). Furthermore, the reforms affecting the National Health Service have been matched by those associated with reform within the Department of Education and Science. Reform has been fuelled by concerns regarding educational standards, service delivery, recruitment and retention, along with changes in the health needs of the population.

The introduction of Project 2000 (ENB, 1989) issued in a period of unprecedented change within nurse education. The widespread effects of change upon complex organisations has been documented (Kirkpatrick, 1985). This innovation necessitated the reallocation of funds and resources into the new diploma programmes and away from the traditional courses (Jowett et al, 1994). Further change has ensued in the wake of institutional mergers resulting in extended periods of upheaval (Kenrick, 1993). Equally significant and challenging has been the forging of links with institutions of higher education. The subsequent effects of change in educational structure, ethos and culture upon staff morale and in turn upon the student body are well documented and it will take a considerable period of time before equilibrium is restored (Miles et al, 1988; Thomason, 1988; Rosenholtz, 1989; Stelzer, 1992).

During the current study, the institutions involved underwent a series of large scale amalgamations coupled with the establishment of new links within institutions of higher education. Indeed, no one institution remained autonomous at the end of the data collection period. The implications of such changes for the role and function of the nurse teacher has been explored in depth in a recent ENB project (Luker et al, 1994). This period of change has placed enormous demands upon both health service and educational provision alike. The current study data that follow have therefore to be viewed in the context of the prevailing turbulent circumstances.

Figure 1

SUMMARY OF CHARACTERISTICS OF DIFFERENT PROGRAMMES AND THEIR PROPOSED OUTCOMES

	RGN Programme	**P2000 Diploma Programme**	**Integrated Degree Programme**
Course length	156 weeks (min) (141 weeks excl. holidays)	3 years (125 weeks excl. holidays)	4 extended academic years
Length of clinical practice	93 weeks (incl. 12 weeks sick leave)	68 weeks (excl. sick leave)	78 weeks (excl. sick leave)
Proposed outcomes (Be able to:)	• Advise re. health promotion • Carry out comprehensive nursing assessment • Recognise significance of observations • Devise plan of nursing care • Implement planned nursing care • Teach and co-ordinate caring team • Review effectiveness of nursing care and initiate action as required • Work in a health care team • Manage care of a group of patients and organise appropriate support services * Statutory Instruments (1969) No 1675 (1983) No 873	• Identify social and health implications of different health states • Recognise factors influencing health • Use research to inform practice • Use sound communication skills to conduct therapeutic relationships • Identify care and health promotion needs • Use legislative framework for nursing practice • Understand ethics of healthcare • Devise, implement and evaluate a plan of care • Function in a multi-professional team approach • Refer to others when necessary • Assign duties to others • Supervise teach and monitor these assigned duties * Statutory Instrument (1989) No 1456	• Advise re. health promotion • Carry out comprehensive nursing assessment • Recognise significance of observations • Devise plan of nursing care • Implement planned nursing care • Teach and co-ordinate caring team • Review effectiveness of nursing care and initiate action as required • Work in a health care team • Manage care of a group of patients and organise appropriate support services • Use research to inform practice * Statutory Instruments (1969) No 1675 (1983) No 873

Chapter 2 Literature Review

This chapter presents an overview of the concept of nurse performance and the key facets of the nurse role. The measurement of nurse performance is discussed exploring the various approaches which have been utilised, including ratings, simulation, and observation. At relevant points the reader is referred to published documents by the authors of this study for indepth consideration of particular topics.

2.1 The Concept of Performance

The literature reviewed has highlighted problems of definition surrounding the concept of performance coupled with an apparent confusion regarding its differentiation from competence (Burg et al, 1982; Medley, 1984). The competence-performance debate has been explored indepth by While (1994). To summarise, it has been purported that competence is what a person knows and can do under ideal circumstances, that is, potential, while performance is actual situated behaviour, that is, what is actually done in the real life context (Messick, 1984). Thus what is actually carried out in practice constitutes the crux of performance (Senior, 1976; Lloyds, 1979; Medley, 1984; Messick, 1984; Wood & Power, 1987; Rethans et al, 1990). While (1994) has advanced this position further arguing that competence, which is concerned with perceived skills, cannot be directly measured. Performance, however, is open to measurement and it is performance therefore which is the focus of this study.

2.2 Nurse Performance Defined

Elucidation of what constitutes effective nurse performance must precede any attempt to measure this construct. Indeed, without a consensus of agreement regarding what nursing entails objectives for nursing practice and its evaluation cannot be formulated (DHSS, 1972; Morle, 1984). The literature has revealed a range of nursing definitions which accentuate the role of the nurse in assisting, facilitating and promoting physical, mental and spiritual health

(Henderson, 1966; McFarlane, 1976; Orem, 1985). Thus nursing, which is multifarious in nature, encompasses a combination of intellectual, interpersonal and technical skills for the delivery of high quality patient care (Feisel, 1963; McFarlane, 1976; Hall, 1980; Griffin, 1983; Bottorff & D'Cruz, 1984; Macleod Clark, 1988; UKCC, 1989). Leino-Kilpi (1989) defined good nursing care as being comprehensive and based upon certain philosophical foundations and individual patient needs and the encouragement of self-care. More recently further insight regarding what constitutes quality nursing care has been provided by Redfern et al (1994). Analysis of interview and observational data in their study revealed 68 themes of high and low quality nursing care. Both patient and nurse cohorts in their study identified four main quality domains which focused upon psychological care of the client; positive attitudes of practitioners; a therapeutic clinical environment; and high standards of professional nursing service (p299). Such work together with the 13 learning outcomes specified in Statutory Instrument No. 1456 (1989), implementing changes in nurse curricula in the United Kingdom, and the requirements of the Code of Professional Conduct (UKCC, 1992a) have facilitated the process of identifying indicators of effective nurse performance.

2.3 Key Facets of Nurse Performance

The key facets of nurse performance are discussed with particular reference to use of the nursing process in the planning and delivery of care; information-seeking, decision-making and problem-solving; critical, creative and reflective thinking; use of research to inform practice; skilled communication; organisation of self and others; and health teaching.

2.3.i Use of the Nursing Process in the Planning and Delivery of Care

A key component of nursing practice is the nurse's ability to process information and to make sound judgements upon which professional practice can be based. This process encompasses a variety of skills, for example, information-seeking, problem-solving and decision-making, without which the practitioner will be unable to respond effectively in a changing environment or as new patient phenomena arise. Problem-solving ability has been identified as one of the salient hallmarks of the effective nurse practitioner (McCarthy, 1981; Berger, 1984; UKCC, 1986; Tanner et al, 1987; Hurst et al, 1991; Roberts et al, 1993). Thus the nurse must demonstrate skills in observing and identifying health care needs and develop an appropriate plan of care to address these in a flexible and creative manner (Crow, 1977; McFarlane, 1978; Hargreaves, 1979; McCarthy, 1981; McFarlane & Castledine, 1982; Brooking, 1986; Jones, 1989; Statutory Instrument No. 1456, 1989).

Critical stages within the problem-solving process are information-seeking and the subsequent utilisation of the acquired data. Nurse education emphasises the orderly collection and analysis of data pertaining to or about the health status of clients for the purpose of formulating a nursing diagnosis. Indeed, it has been reported that the nursing process itself mirrors the stages model theory of problem-solving (Hill, 1979) and as such data acquisition forms the first phase in the assessment process (Kratz, 1979; La Monica, 1979; George, 1980; Griffith & Christenson, 1982; Hunt & Marks-Maran, 1986; Tanner et al, 1987). Information-seeking and problem-solving in nursing practice have been explored further by Roberts et al (1993, 1994).

2.3.ii Critical, Creative and Reflective Thinking Skills

Central to the effective use of the nursing process are the processes of critical, creative and reflective thinking which are considered imperative to sound professional practice. Indeed, it has been expounded that these processes represent the linchpin of nursing practice (Berger, 1984; Field, 1987; Pardue, 1987; Shamian, 1991). The centrality of these skills has been reflected in the philosophy of pre-registration nurse education programmes. It has been stated, for example, that the nurse of the future should be "a knowledgeable doer" and "a thinking person with analytical skills" (UKCC, 1986 p40). Thus the nurse should possess a sound knowledge base and the skill to examine practice analytically, seeking continued improvement and thereby contributing to high quality care.

2.3.iii Use of Research to Inform Practice

Over two decades ago the Report of the Committee on Nursing (DHSS, 1972) emphasised that "nursing must become a research-based profession" (para. 726), the ultimate goal being an improved quality of service resulting from more effective and efficient practice (McFarlane, 1980). Related to this is the need for self-monitoring and continued improvement of professional knowledge and clinical skills which may be augmented by awareness and application of research to practice. Further, in a recent study investigating the assessment of competencies in nursing and midwifery education, Phillips et al (1993) asserted that the best means of refining professional judgement is through a process of research and education. Indeed, the use of relevant literature and research to inform practice is now a stipulated requirement for registration (Statutory Instrument No. 1456, 1989).

2.3.iv Skilled Communication

Another indicator of effective nurse performance focuses upon skilled communication (Bridge & Macleod Clark, 1981; French, 1983; Faulkner, 1984; Haggerty, 1985; Kirkham, 1989). The importance of this area is also emphasised in Statutory Instrument No 1456 (1989), where the use of appropriate communication skills to facilitate the development of caring and therapeutic relationships with patients and families is stressed. Further, Roper et al (1990) have emphasised that adequacy of communication enables the nurse to comply with the professional duty to be accountable (p115). Interpersonal skills that are likely to promote effective nursing action have been identified by Kasch (1986) who claimed that skill is required in eliciting information for nursing diagnosis and decision-making and to promote patient understanding. Indeed, unless nurses can communicate skilfully they can neither assess patients' needs for care, plan care effectively, implement it, nor evaluate it (McFarlane, 1978; Macleod Clark, 1988).

2.3.v Organisation of Self and Others

Skilled communication is also a vital feature of effective professional relationships with nursing colleagues/ other health care professionals and is essential for the co-ordinated delivery of high quality patient care. Furthermore, the leadership role demands effective planning and organising to facilitate the day-to-day management of the ward and the supervision and support of other nursing staff (Choppin, 1983; Lewis, 1990). In addition, as a member of the multidisciplinary health care team, effective management of care and organisation of workload demands a high degree of self-awareness and assertiveness (Bernhard & Walsh, 1990). Intrinsic to the development of these attributes in the individual nurse is awareness of self-motivation, personal knowledge base, self-confidence, and creativity. Similarly, Redfern et al (1994) have asserted that effective preparation as well as personal qualities of the individual practitioner are critical to the process of organisation.

It has also been demonstrated that the philosophy and management style of those in authority positions in the practice setting, for example, the ward sister/charge nurse, influence the professional development and practice of student nurses (Lelean, 1973; Orton, 1981; Fretwell, 1982; Ogier, 1982; Smith, 1988; Brown, 1989). Indeed, research has highlighted a variety of factors which contribute to a therapeutic environment for student learning which include: effective interpersonal and communication skills, team leadership skills, sensitivity to learners' needs, accessibility and approachability of trained staff, and the power of role models (Fretwell, 1980; Marson, 1981; Ogier, 1981; Orton, 1981; Melia, 1987; Smith, 1987; Wilson & Startup, 1991, 1992; Davies, 1993; Campbell et al, 1994). The importance of high quality mentorship systems has also been identified in a multi-method study by Orton et al (1993) which is consistent with the assertion that quality supervision in the practice setting is imperative for the consolidation of knowledge and clinical skills and the continued development of a professional practitioner (UKCC, 1990; Butterworth & Faugier, 1992).

2.3.vi Promotion of Health and Teaching Skills

It has been stated that people have a basic human right to health knowledge (WHO, 1978). Thus nurses must be competent in the provision of health education which is acknowledged as an integral part of the nurse's role (Henderson, 1966; Statutory Instrument No 1456, 1989; Clarke, 1991) and to achieve this the nurse requires a variety of skills and knowledge (Syred, 1981; Macleod Clark et al, 1987; Close, 1988; Murphy-Black & Faulkner, 1990). The concept of health education focuses upon giving information to enhance the potential for people to make informed health choices and increased control regarding one's health and impinging factors is encouraged (Catford & Nutbeam, 1984; Ewles & Simnet, 1987; Denny & Jacob, 1990). Indeed, empowerment of the consumer of health care is enshrined in current British government policy (DHSS, 1986; Dept of Health, 1991).

2.4 Performance Measurement

It is evident from the literature reviewed that effective nurse performance requires competence in the application of theory and skill in the clinical situation. Thus the practitioner must possess the necessary knowledge, as well as having mastery in psychomotor, cognitive and affective skills. Investigating to what extent this is being achieved, however, has posed a challenge for several decades. A variety of approaches to measuring nurse performance have been explored many of which compare the performance of nurses from different programmes of preparation, that is, where educational preparation is the independent variable. The studies identified can be classified into those which attempt to measure behaviour indirectly using ratings; those adopting a simulation design; and those which attempt to measure actual situated behaviour.

2.4.i Measurement of Nurse Performance by Ratings

The rating of nurse performance by different persons using a questionnaire as the main recording device has featured prominently in research of this nature. The majority of studies using a rating process have, however, been conducted in the United States.

2.4.i.a Ratings by Directors of Nursing and/or Nurses Themselves

Ratings of nurse performance by directors of nursing and/or nurses themselves have been the focus of several studies (Welches et al, 1974; Hogstel, 1977; Howell, 1978; Zarett, 1980). Hogstel (1977), for example, administered an 80 item questionnaire to all nurses who had graduated from associate degree (n=109) and baccalaureate (n=236) programmes within one educational centre in North America to elicit differences, if any, in the performance of the two cohorts. Participants were asked to report the extent of their performance of the 80 items, which had been grouped into five nursing functions, and to record how prepared they felt to carry out each activity. Directors of nursing (n=100), randomly selected from a variety of hospital settings within one state, were asked to complete a similar questionnaire. Results of the directors' responses indicated that they considered baccalaureates to be better prepared for four of the five nursing functions, namely, interpersonal relationships, leadership, decision-making and community health care. In this study, however, directors were asked for their opinions regarding baccalaureate and associate degree nurses in general and therefore ratings were not specific to the sample. Other methodological concerns include the absence of detail regarding reliability and validity testing of the tool; the directors' educational background and degree of experience with the two groups; a poor response rate of 'at least 40%' (p1599); and the fact that data was not subjected to statistical testing.

Similar flaws can be found in Howell's (1978) study. Using a seventeen item questionnaire directors of nursing (n=86) were asked to rank their perceptions of associate degree, diploma and baccalaureate nurses on a three point numerical scale for which label definitions were not provided. The findings indicated that associate degree nurses were considered less proficient in their technical skills performance than their diploma and baccalaureate colleagues. Howell has noted, however, that the directors' ratings reflected their own educational background. In view of this potential bias and other limitations including a response rate of only 58% and failure to address reliability and validity issues, the study's findings must be considered with caution. Zarett (1980) found that directors of nursing (n=154) rated diploma nurses significantly higher ($p<0.05$)) than baccalaureates in areas such as performing independently, prioritising needs and the recording and reporting of patient data. In contrast, baccalaureates were considered significantly more skilled in their ability to apply knowledge concerning biopsychosocial influences on health status. Unfortunately, however, of the 220 questionnaires that were returned 66 were not suitable for analysis as not all hospitals employed baccalaureate or associate degree nurses and on a number of occasions directors had not used Zarett's tool. Thus, despite a response rate of 68% (n=220) only 48% of the questionnaires could be analysed. A further problem with this study was the absence of information regarding the directors' personal profile variables. Although a test-retest, conducted three weeks after the initial administration, produced a correlation of r=.87, no other means of estimating tool reliability have been reported.

2.4.i.b Ratings by Head Nurses

Other researchers in the United States have included head nurses rather than directors as key informants in their rating studies. The head nurses have observed subjects' practice at close quarters and consequently may be considered to be a more reliable source of opinion (Tate, 1962; Welches et al, 1974; O'Brien, 1984; Bircumshaw, 1989b). In a study conducted by Welches et al (1974) ten factors believed to influence staff nurse performance were elicited from a population of staff nurses, head nurses, administrators and educators (n=188). Responses were grouped into ten categories which informed the development of a questionnaire to elicit biographical data, an assessment of the participants' working environment and a self-rating of performance. The main sample of associate degree, diploma and baccalaureate nurses (n= 650) from 15 hospitals completed the questionnaire coupled with a psychological inventory. Both instruments were subjected to cluster analysis which generated six clusters with a total of 42 variables. Subjects were scored for each cluster and subsequently assigned to one of twelve nurse profiles which the researchers have presented in detail in their report. Head nurses also completed an 19 item rating scale for each participating nurse for whom they were responsible. Six clusters of variables were identified as potentially influencing performance: C1 age and experience; C2 intelligence, independent achievement, sensitivity and flexibility; C3 job satisfaction including morale and opportunity for development; C4 perception of self-performance; C5 social image; and C6 leadership potential and capacity for status. There was no correlation between the educational background of the staff nurse and the head nurse ratings. Although the instruments had been rigorously tested, the authors have noted several limitations including evidence of the halo effect in the head nurses' rating and their tendency to rate all participants generously.

In one of only two small scale rating studies which have been conducted in the United Kingdom, ward sisters (n=23) rated undergraduate nurses highly on their knowledge base and ability to assess and meet clients' needs (O'Brien, 1984). Only three questions, however, were asked to elicit this information and ratings were obtained using qualitative labels without definitive criteria. Like other rating studies, the researcher relied upon retrospective opinions and a further reliability detractor was the ward sisters' limited experience of graduates in comparison to conventional nurses. Senior nurses (n=11) in Bircumshaw's (1989) five item questionnaire study were of the opinion that graduates function differently from their conventionally prepared colleagues. Explanations regarding this difference included the notion that graduates do not 'fit' into the current system and, on a more positive note, that they adopted a different approach to their care because of a greater knowledge base. The research, however, was limited by its convenience sample (n=18) and a response rate of 64.3%.

2.4.i.c Ratings by Head Nurses and Nurses Themselves

In addition to obtaining ratings of nurse performance from immediate supervisors Nelson (1978) extended her study to include graduates' self-ratings (n=329). A 35-item questionnaire, drawing upon relevant literature and expert opinion, was administered to baccalaureate, associate degree and diploma nurses to elicit their technical, administrative and communicative skills on a five point scale. Statistical analysis of the data confirmed differences between the three groups. For example, diploma nurses rated themselves significantly higher on overall performance than their graduate colleagues, while supervisors rated baccalaureate nurses significantly higher overall and in technical, communicative and administrative skills ($p<0.05$). In summary, the three groups perceived themselves differently in their performance which was also reflected in the ratings of supervisors. Response rates of 77% for the nurse group and 75% for the supervisors were achieved. Unfortunately Nelson, however, omitted to control for the supervisors' level of education or experience and although there is evidence of the instrument's content validity, evidence of reliability testing is not reported.

In a major study conducted by Schwirian et al (1979) a 52 item questionnaire grouped into six subscales of nurse performance (leadership, critical care, teaching/collaboration, planning/evaluation, interpersonal relations/communication and professional development) was developed to obtain employer and self-ratings of nurse performance. The nurse sample (n=914) consisted of nurses from associate degree (n=342), diploma (n=332) and baccalaureate (n=240) nurse education programmes and was obtained from a random sample of 151 schools of nursing in the United States. Similar to an earlier study by Hogstel (1977), participants were asked to report the frequency of performance of the scale items and how prepared they felt for each behaviour. In addition, they were required to rate the level of performance proficiency. Analysis of the study data indicated that the associate degree nurses rated themselves lowest on all six subscales while the baccalaureates rated themselves higher in teaching/collaboration and planning/evaluation. The employers' ratings of performance revealed significant differences between the three groups on two of the subscales (teaching/collaboration and planning/evaluation), that is, baccalaureates were rated significantly higher than associate degree and diploma groups. Schwirian and colleagues have conducted rigorous reliability and validity testing of the instrument. Disappointingly, however, a response rate of only 30.4% for the nurse group was obtained.

McCloskey (1983) incorporated Schwirian's Six Dimension Scale of Nursing Performance (Schwirian et al, 1979) as well as a job effectiveness scale to head nurses (n=52) to determine whether staff nurses with different educational backgrounds differed in job effectiveness. A sample of staff nurses (n=299) from four educational groups, practical (n=53), associate degree (n=63), diploma (n=134) and baccalaureate (n=49) programmes, also rated their own performance using Schwirian's 6-D Scale. In this study McCloskey has re-established reliability and validity of Schwirian's Six Dimension Scale of Nursing Performance. As Lynn (1985) has asserted the reliability of a data collection strategy must be re-estimated with each subsequent use since reliability may vary with population or sample and with the measurement conditions. Interestingly, nurses from the associate degree and diploma cohorts achieved higher mean job effectiveness scores than baccalaureates while head nurse ratings of subjects' performance revealed no differences between the groups.

In summary, a variety of conflicting findings have emerged from the rating studies discussed. Associate degree nurses, for example, have been considered less proficient in their performance of technical skills when compared with diploma and baccalaureate nurses (Howell, 1978). In contrast, the associate degree cohort in a study by McCloskey (1983) achieved the highest mean score for job effectiveness. Other comparative studies have concluded that baccalaureates perform better or differently from other educationally prepared groups. For example, they have been considered better prepared for interpersonal relationships, leadership, decision-making and community health care (Hogstel, 1977), more proficient in technical, communicative and administrative skills (Nelson, 1978) and in teaching/collaboration and planning/evaluation (Schwirian et al, 1979). No differences, however, in performance owing to educational preparation have been reported by Welches et al (1974). The two small UK studies have indicated that undergraduates were considered favourably regarding their knowledge and practical skills (O'Brien, 1984; Bircumshaw, 1989b).

It would appear that there are differences in the practice style of nurses who have pursued different pre-registration programmes. However, the results of the available empirical evidence to date must be considered with caution in view of the noted criticisms, for example, lack of attention to instrument development and reliability and validity testing, ineffective rater performance, small sample sizes, coupled with poor response rates, failure to control for extraneous variables and inappropriate data analysis. Furthermore, none of the studies have investigated actual performance in the practice setting.

2.4.ii Simulation as a Measure of Nurse Performance

Rather than investigating nurse performance in a real-life setting, several researchers have explored the possibility of measuring this concept in a simulated environment. The advantages of simulation as an evaluation tool have been well documented (Roberts et al, 1992). To summarise, advantages of simulation as a research method include: the potential to provide the standard against which performance can be judged (Spannaus, 1978); allowing for the control of extraneous variables in the real life situation and facilitating the measurement of skill in a specific task (McGuire & Babbott, 1967). Thus fragmentation of the behaviour under analysis is avoided and the validity of a test purporting to measure performance is enhanced.

2.4.ii.a Problem-Solving

Several studies have adopted a simulation design including the use of film, videotaped or written simulations to assess cognitive aspects of nurse performance (Verhonick et al, 1968; Davis, 1972; Gray et al, 1977; Schneider, 1979; Roberts et al, 1992). Participants (n=1965) in Verhonick et al's (1968) study, for example, observed 5 filmed patient situations and recorded their observations, plan for action and rationale. Results indicated that the highest frequency of relevant observations increased with each higher degree held and, further, the participants were more likely to relate supportive actions to observations made. Unfortunately, a non-representative sample and failure to discuss the validity of the tool prevent generalisations being drawn. Davis (1972) replicated this study and reported similar findings; clinical nurse specialists (n=20) recorded more relevant observations, suggested more relevant actions and provided a more appropriate rationale in comparison to their baccalaureate colleagues (n=20). Inherent within this, however, is the assumption that quantity equates with quality. Furthermore, Davis has omitted to establish the validity of the instrument and to conduct further reliability testing.

De Tornyay (1968) developed the Clinical Nursing Problem Test designed to measure the problem-solving skills of nursing students. It draws heavily upon an earlier model devised by McGuire and Babbott (1967). The problem presented represents the medical management and progress of an actual patient. The simulated clinical nursing problems are comprised of a number of sections each of which contains relevant and irrelevant information from which the student has to choose. From the data De Tornyay (1968) devised a test score. The validity of this early simulation, however, remains open to question as its content was only reviewed by one qualified nurse and a physician. The reliability of the test is also questionable. A test-re-test method was employed and a Pearson Product-Moment Correlation Test (Milton and Tsokos, 1983) applied to the data. The test-re-test interval was four weeks and yielded a reliability co-efficient for the net score of 0.57 for the E1 (Efficiency Index), and 0.55 for the P1 (Proficiency Index). With one exception scores on re-test were higher. De Tornyay (1968) acknowledged however the special problem of estimating reliability with this type of unconventional test and made reference to the additional problem of small sample size but omitted to specify the actual number of students involved in the study.

Further work was undertaken by Sherman et al (1979) who again drew heavily upon the work of McGuire and Babbott (1967) for their development of a patient management problem (PMP) to assess problem-solving skills. In this study students (n=9) were presented with a simulated problem within the framework of patient care and asked to solve specific problems through a series of inquiries, decisions and actions. In an attempt to measure instrument validity and reliability, scores were correlated with the scores obtained on a multiple choice examination, however, no meaningful relationships were found. Similarly, a coefficient of only 0.49 was obtained when the scores of proficiency and competency were compared with student's scores in undertaking a nursing history six months prior to taking the PMP. Due to the contextual nature of problem-solving within the clinical area further research is required before it can be claimed that the PMP is a valid measure of nurse's problem-solving skills.

It would appear that there is evidence to suggest that there are differences in problem-solving skills amongst nurses with differing educational preparation (Verhonick et al, 1968, Davis, 1972). The results, however, of the empirical literature to date need to be viewed with caution in light of the methodological difficulties encountered in measuring such a complex phenomenon and it is proposed that continued research to explore the problem-solving ability of nurses is essential.

2.4.ii.b Information-Seeking Studies

Tests exploring the information-seeking process have proved difficult to construct, validate and evaluate (Hurst, 1985). Different methodologies have been employed including the verbal protocol technique (Tanner et al, 1987; Bakken Henry et al, 1989; Jones, 1989; Grobe et al, 1991) the cue and card sort (Hammond et al, 1966; Openshaw, 1985) as well as a variety of simulation techniques (McGuire & Babbott, 1967; Sherman et al, 1979; Farrand et al, 1982; Tanner, 1982). Studies, in the main, exploit one of three simulation techniques: written simulation exercises such as the use of the Patient Management Problem (McGuire & Babbott, 1967; Sherman et al, 1979; Farrand et al, 1982; Holzemer & McLaughlin, 1988), video-tape simulation exercises (Verhonick et al, 1968; Davis, 1972; Tanner et al, 1987) and computer-based simulation exercises (Holden & Klinger, 1988).

2.4.ii.b.i Case Scenarios and the Patient Management Problem (PMP)

An early study by Hammond et al (1966) investigated the manner in which nurses use various strategies for seeking information from patients. The study focused upon the information-seeking strategies employed coupled with how well they were utilised. The small sample of registered nurses (n=5) were presented with twelve case scenarios and required to seek information to enable the rejection or acceptance of a hypothesised diagnosis regarding the state of the patient (SOP). Cues were selected from a board one at a time, simultaneously the participant made a probability estimate regarding the value of each cue selected. Findings were ranked in terms of selection order, probability order, simultaneous scanning order and successive scanning order. The findings were inconclusive showing considerable variability of strategy components, utilisation coefficients and performance across cases.

A number of subsequent studies have further explored the validity and reliability of the PMP as a research tool (Farrand et al, 1982; Holzemer & McLaughlin, 1988). All emphasised the complexity of the PMP as an exercise and the difficulty of drawing meaningful conclusions from any results. Indeed, McGuire (1972) noted that there is no evidence that the PMP duplicates a clinical encounter, rather, it approximates it. Further, McGuire and Babbott (1967) suggested that the efficient and experienced problem-solver will solve the PMP with the minimum information necessary for that particular problem. This qualitative difference is in line with a perceived improvement in focus which develops with experience (Kleinmuntz, 1966) coupled with greater thoroughness in the collection of information (Neufield et al, 1981). However, empirical data to support such contentions is limited.

2.4.ii.b.ii Video-Tape Simulations

The use of video-tape simulations in research exploring information-seeking and problem-solving has a long history (Verhonick et al, 1968; Davis, 1972; Tanner et al, 1987). Tanner et al (1987) compared the cognitive strategies used by junior nursing students (n=13), senior nursing students (n=13) and practising nurses (n=15). Verbal responses to three video-taped vignettes preceded by a verbal change-of-shift report provided the data. After listening to the report and viewing the video tapes participants were then asked to recount their thoughts. Subsequently participants were asked to seek information from the researcher that would be obtained in actual practice and continue to ask questions until they had obtained sufficient information to identify major problems and decide upon appropriate management strategies. Hypotheses activation was scored in terms of the number of accurate and possible hypotheses generated and the earliness with which a diagnostic hypothesis was activated. Data acquisition was scored as the number of questions subjects asked coupled with the rating of predominant strategies used. This showed data acquisition strategies similar to those identified in the medical literature: hypothesis testing, symptom exploration and a review of systems approach (Barrows & Bennet, 1972; Elstein et al, 1978; Kassirer et al, 1982; Gale & Marsden, 1982). Such findings are consistent with other studies that suggest more experienced practitioners are increasingly focused and systematic in data acquisition than less experienced practitioners (Kleinmuntz, 1966; Neufield et al, 1981; Roberts et al, 1993) but the small sample size precludes generalisation of these tentative findings.

2.4.ii.b.iii Computer-Based Simulations

Holden and Klinger (1988) explored the effects of nurse education and experience upon the problem-solving process. The sample consisted of nursing students in the first term (n=26), final year students (n=29), paediatric nurses (n=30) and a group of students who were also parents (n=15). Two computer presented simulations formed the focus for data collection: the Cry Problem and Insomnia Problem, the latter acted as a control. Two sub-tasks were also included: searching for relevant facts from twenty five information units and determining the single correct hypothesis from among nine hypotheses.

The findings revealed the number of information units sought prior to problem-solving. All four groups found the Cry Problem easier to solve with thirty per cent of the parent group requiring only five or fewer information units. The study identified differences in the type of strategies adopted in information-seeking. Nurses with more experience were likely to employ a simultaneous information-seeking strategy (Hammond et al, 1966) and use a state (of the individual) attribute approach (Gorden, 1980) than were student nurses who tended to use successive information acquisition approach and focus more on the contextual attributes than the crying infant. The authors acknowledged a number of limitations associated with the study, namely: problems inherent within the soft ware package, limitations of the Insomnia Problem as a control and limited control of background variables.

A review of the empirical work to date on information-seeking reveals the complex nature of the task and the methodological difficulties inherent in any attempt to explore information-seeking behaviours, specifically, issues of sample size and validity which are consistent across methodologies.

2.4.iii The OSCE as a Measure of Clinical Skills Performance

Like a simulation approach, the OSCE (Objective Structured Clinical Examination) is also administered within a laboratory setting. Originally designed for use in medical education its potential as a measurement of clinical skills performance has also been explored in nursing (McKnight et al, 1987; Ross et al, 1988; Reed, 1992). Subjects participating in an OSCE are requested to perform a selection of activities at timed stations, for example, history taking and nursing procedures. Purported advantages of this method include the use of a predetermined checklist of criterion items for rating and a specified level of assessment which minimises ambiguity thereby facilitating inter-rater reliability. In a report by Reed (1992), however, low correlations across testing stations has been highlighted as a problem thus preventing any prediction being made regarding subjects' performance in practice.

2.4.iv A Task Analysis Approach

Other researchers have concentrated upon proficiency in carrying out specific nursing procedures as an indicator of performance, thereby adopting a task analysis methodology (for example, Anderson & Saxon, 1968; Dunn, 1970; Reese et al, 1979). Dunn (1970), for example, developed rating checklists for five nursing procedures to determine nurses' skill in the application of nursing principles. The subjects' performance of each of the five procedures was observed on four occasions and the data was cross-tabulated with their scores on a knowledge of nursing principles test. Interestingly, no relationship between nursing performance and the test scores was observed and the potential effect of educational preparation on performance was not investigated. Content validity of the tool was established by use of an expert panel and inter-observer reliability was achieved, however, a small sample size (n=35) and the fact that the study focused upon only five nursing procedures in one hospital, limit its wider applicability.

While it is acknowledged that simulation, OSCE and task analysis methodologies may approximate the 'real' situation, undoubtedly they are not equivalent. McGaghie (1991), for example, has noted that most professional competence assessments are concerned with the potential for effective and safe practice in a narrow range of clinical situations. However, practice in real life occurs in complicated and challenging clinical situations. Further, there is no empirical evidence to demonstrate that performance in a laboratory situation is predictive of performance in the practice setting. As Black and Wolf (1990) have asserted demonstration of knowledge alone is no guarantee of effective performance. Recognising performance as a multi-faceted construct, therefore, the use of a triangulated research design, specifically method triangulation, is advocated in an attempt to overcome the deficiencies of a single method and facilitate a more indepth understanding of performance.

2.4.v Direct Observation of Nurse Performance

While the studies outlined have explored nurse performance using a variety of methods, they have not, however, investigated how nurses actually practice nursing. Disappointingly, few studies have been located in the literature which adopt an observational approach. Of further significance is the absence of a valid and reliable observation instrument suitable for use in the United Kingdom. These findings may in part be owing to the many challenges associated with adopting observation as a research method (Wood, 1972, 1982; Woolley, 1977; Crow, 1984; Ross et al, 1988; Fletcher, 1992). Nonetheless it has been argued that since pre-registration nurse education is concerned with producing effective practitioners it is vital that performance in the practice setting is afforded greater attention (While, 1994).

A pilot study was conducted by Christman (1971) to examine baccalaureate nurses' performance using the Slater Scale as the observation instrument (Slater, 1967). The organisation of nursing care was the independent variable (patient allocation versus task allocation) and results indicated a statistically significant difference ($p<0.05$) between performance score and setting. The mean score for those working in a patient-centred setting (4.1) was significantly higher than for those working in a task-centred environment (3.7). Waters et al (1972), using an observation and interview approach, found that associate nurses ($n=24$) were predominantly technical in their practice (that is, actions had a physiological basis) while the baccalaureate group ($n=24$) demonstrated a more professional approach, that is, placing greater emphasis on the client's psychological and social needs. Participants in this study, however, were only observed in practice until an incident requiring the nurse to make a decision had been identified (30-120 minutes). Subsequently, two interviews were conducted and the interview data analysed to explore the nurses' problem-solving and decision-making processes, scope of practice and attitude towards practice. Interviews with head nurses ($n=22$) and directors ($n=12$) regarding any perceived differences in practice between the two groups revealed a variety of opinions and head nurse responses were often inconsistent. While the desirability of incorporating different methods into the design of

Water et al's study is acknowledged, confounding factors including a small sample size and failure to achieve agreement between judges for the categorisation of 18 of the 24 baccalaureate nurses detracts from this.

More recently, Bircumshaw and Chapman (1988) incorporated an observational approach to compare the practice style of graduate and non-graduate nurses and midwives in Wales. Several instruments were used in the pilot phase, including an attitude questionnaire, card sort and observation of practice using an activity analysis approach. Potential differences in performance style between the groups were indicated, although the researchers concluded that activity analysis produced little useful observational data and required modification. Disappointingly, main study findings were not reported.

2.5 Summary

The literature reviewed has revealed that high quality nurse performance, with the ultimate aim of providing enhanced patient care, demands the proficient application of knowledge and skills in the practice environment. This includes the mastery of psychomotor and affective skills, in addition to critical, creative and reflective thinking abilities. A variety of methodologies have been explored in attempts to measure and compare the performance of nurses from different programmes of preparation. This has included the use of rating studies, simulation, OSCE, task analysis and direct observation. The findings of the research, the majority of which has been conducted in the United States, have highlighted potential differences in the practice style of nurses from different programmes of preparation. The noted methodological limitations, however, act as detractors.

Disappointingly, few studies adopting an observational approach have been located in the literature and related to this is the absence of a valid and reliable observation instrument suitable for use in the United Kingdom. Educational preparation as a potential discriminator of nurse performance has received little attention. Indeed, in the United Kingdom, only one comparative study exploring the practice style of graduate and non-graduate nurses and midwives has been identified (Bircumshaw & Chapman, 1988).

It is argued that the use of a multi-method research design, incorporating simulation and direct observation approaches, presents the greatest opportunity to measure and compare nurse performance between different pre-registration programmes. To achieve this effectively requires the development and administration of valid and reliable instruments which explore the nurse's ability to perform effectively in the key facets of the nurse's role, namely: information-seeking, decision-making and problem-solving using the nursing process to deliver care; critical, creative and reflective thinking; use of research to inform nursing practice; skilled communication; organisation of self and others; and health teaching.

Chapter 3 Method

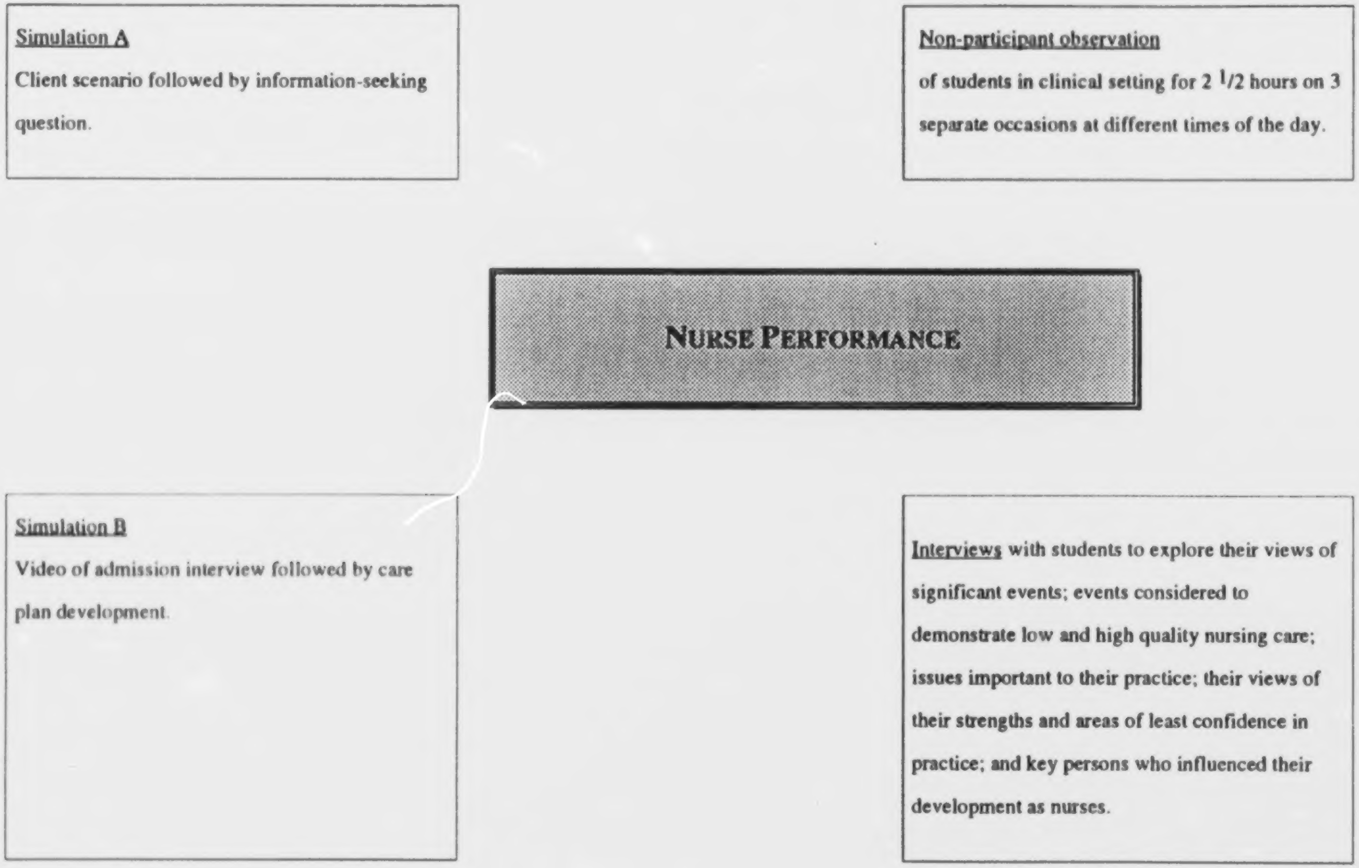
3.1 Study Aims

The ENB (1990) project specification required that the study provide a comparison of outcomes of pre-registration nurse education programmes with the following study aims:
a) to compare the intended and actual outcomes of the courses, with particular emphasis on nurses' attitudes, skills and competencies and their effect in practice, and
b) to examine the course outcomes in terms of quality of care for patients and clients.
Since everyone was training for the Register the hypothesis might be that there would be no expected differences. In view of the absence of research evidence indicating potential differences, this study was engaged in exploratory work regarding outcomes from different pre-registration nurse education programmes.

3.2 Selection of Study Design

The relative absence of research examining outcomes of different approaches to pre-registration nurse education perhaps reflects the methodological difficulties in pursuing such work. A careful review of the literature has revealed that nurses delivering high quality care demonstrate competence in the use of the nursing process; application of research to practice; communication skills; care management and the organisation of workload; health education and health promotion; critical, creative and reflective thinking; and decision-making and problem-solving (Fitzpatrick et al, 1992). While (1994) has argued that while competence is much used in the literature, it has no universal meaning and further, since it is not an objective phenomenon being concerned with perceived skills, it cannot be directly measured, however, performance is open to measurement. McCloskey (1981), Stedman (1985) and Newble (1992) among others have contended that there is a lack of evidence that competence is always translated into actual role performance and in this study, the critical outcome of nurse preparation was viewed as performance in the clinical situation. Thus the study sought to measure the performance of participants in different professional nursing situations and make comparisons across both programmes and centres. This was achieved by adopting a triangulation research design which involved the use of several methods for the measurement of a single construct (Figure 2).

Figure 2 Research Methods



Simulation A
Client scenario followed by information-seeking question.

Non-participant observation
of students in clinical setting for 2 1/2 hours on 3 separate occasions at different times of the day.

NURSE PERFORMANCE

Simulation B
Video of admission interview followed by care plan development.

Interviews with students to explore their views of significant events; events considered to demonstrate low and high quality nursing care; issues important to their practice; their views of their strengths and areas of least confidence in practice; and key persons who influenced their development as nurses.

Triangulation is defined as the combination of multiple methods in the study of a phenomenon to increase accuracy by overcoming the deficiencies of a single method of investigation (Denzin, 1978; Mitchell, 1986). Triangulation research design is well reviewed by Norman (1994) who outlined the different types of triangulation. Knafl and Breitmayer (1989) have proposed five types of triangulation, namely: method, data source, unit of analysis, investigator and theory. This study employed method triangulation, data source triangulation and unit of analysis triangulation (Figure 3) and was employed both as a means of attempting completeness in performance measurement and also as a test of convergent validity.

Figure 3 Multiple Triangulation Research Strategy

Type of triangulation:	**Approach:**
Method	Simulation
	Non-participant observation
	Interview
Data source	Different programme groups
Unit of analysis	Different centre groups
	Different programme groups

3.3 The Study Design

The design was set out on the outline proposal for the tendering exercise and was awarded the commission. The Steering Group was convened three times in the first year, twice in the second year and twice in the third year of the research. The execution of the project was in line with the outline proposal and the Steering Group approved all aspects of the research study as it progressed with interim papers being submitted to the Research and Development Committee of the ENB.

The project specification required a comparison of outcomes of pre-registration nurse education programmes on several dimensions. Namely, a comparison of intended and actual outcomes of the courses. The design explicitly focused upon actual outcomes of the courses in terms of performance (behaviour in simulated situations, actual-situated behaviour and views of participants) and intended outcomes were to be gathered from curricula documents relating to the courses. As the literature has indicated, nursing requires the performance of a number of skills for the delivery of high quality care and this study was informed by the Redfern et al (1994) study regarding what constitutes quality nursing care. Their data were derived from both patients and nurses and identified four quality domains which focused upon psychological care of the client; positive attitudes of practitioners; high standards of professional nursing service; and a therapeutic clinical environment. The Redfern et al (1994) research together with Statutory Instrument No. 1456 (1989) and the UKCC (1992a) Code of Professional Conduct were utilised in the development of the nurse performance instrument so that the measurement of nurse performance was reflective of quality care for patients and clients which was an important requirement of the project specification.

3.3.i Simulation A: Information-Seeking Exercise

As highlighted in the literature review the ability to problem solve has been recognised as a key characteristic of an effective nurse practitioner and underpinning sound problem-solving is thorough information-seeking which should enable the nurse to gather sufficient information for the development of a plan of care (Roberts et al, 1993). Taking this into consideration the simulation employed in the present study had two complementary elements designed to explore the information-seeking strategies and care planning skills of the study participants. A variety of other research strategies have been employed to explore the information-seeking process including the Verbal Protocol Technique (Bakken Henry et al, 1989; Jones, 1989; Grobe et al, 1991) and the card-sort technique (Hammond et al, 1966; Crow, 1980; Openshaw, 1985). The use of the verbal protocol was rejected, however, owing to the potential for participant overload (Wineman & Durand, 1992). Similarly, the card-sort approach was discounted because it requires often complex direction, is potentially difficult for participants to follow and is very time consuming (Maatsch & Gordon, 1978).

3.3.i.a Development of the Information-Seeking Simulation

A written simulation exercise was devised. The challenge was to depict a client scenario with sufficient potential to discriminate between different information-seeking behaviours. A decision was made to develop and test two different approaches. Format A utilised the video tape simulation of a nurse-client interview and after viewing participants were asked:

> You have now seen the video. Would you have liked any other information regarding this client. If so, please note your requirements on the paper entitled: 'Information Sheet'.

Such a question it was anticipated would determine the degree to which participants were satisfied with the information presented and furthermore, would highlight participants' priorities when information-seeking.

The second approach (Format B) consisted of the following written client scenario and question:

> An elderly woman is admitted to the ward with a history of falls. Please note on the information sheet provided, any information which you would require before planning this client's care.

60

Such an approach would enable participants to actively state their information requirements.

3.3.i.b Validity of the Information-Seeking Simulation

In order to maximise content representativeness and relevance (Anastasi, 1976; Messick, 1989) and specifically reflect demographic and in-patient trends in the United Kingdom (OPCS, 1989; OPCS, 1994), an elderly client was selected as the focus of the exercise. Professional judgements about the relevance of the exercise content were also sought from experts through the use of an expert panel (n=7) drawn from clinical practice, research and education (Refer to Figure 4 on page 41). The expert panel and members of the project Steering Group were also consulted regarding demand characteristics of the task format (Messick, 1989). While it is acknowledged that time effects are an important consideration in an exercise of this nature (Sternberg, 1985), general consensus emerged on the need for a short time allocation, five minutes (Format A) and ten minutes (Format B) respectively. This decision was made in view of the potential danger of participant fatigue coupled with the need to create a scenario as true as possible to the real life situation (Miller, 1987). With respect to the latter, five or ten minutes was considered a generous representation of the reality of the clinical situation, for instance, when a ward is informed of the imminent arrival of a new patient from an Accident and Emergency Department.

3.3.i.c Pilot Study

The aims of this phase were to :

i Test the feasibility of the two research designs.

ii Test the procedure and conduct further procedural refinements.

Data were collected on two separate occasions. In the first pilot study, the volunteer sample (n=10) consisted of final year diploma students. In the second pilot study, the sample (n=6) was drawn from a cohort of integrated nursing degree students.

3.3.i.d Procedure

Access was gained through close liaison with the respective head of each educational institution, followed by collaboration with course leaders. Each pilot study was conducted in a classroom and began with an introduction and explanation of the research project. Every effort was made to ensure that participants were relaxed prior to the exercise in view of the potential negative effects of stress upon performance (Ruckholm & Viverais, 1993). The volunteers were then randomly assigned to two groups. The groups were located in separate rooms led by a member of the research team. Participants were each given a set of paperwork: a blank A4 sheet entitled 'Information Sheet', local nursing history forms, a blank care plan, the latter two items were for use during the subsequent Simulation B exercise. Instructions were outlined with the aid of an overhead transparency. The information sheets were collected after completion of the exercise.

3.3.i.e Issues Arising from the Pilot Study

Following the first pilot study further developmental work took place. Of the two formats piloted, the supplementary information format (Format A) yielded only limited data. Information items cited ranged from 2 to 13 (Mean =7.25). The second approach (Format B) proved more illuminating. Information items cited ranged from 11 to 32 (Mean =17.62). The latter format with two adjustments was adopted for use in the main study (Appendices I & II). To reduce the risk of bias, no reference was made to the reason for admission in the light of the subsequent video-tape scenario, the focus of which was an elderly client admitted with a history of falls. The instrument was also expanded by incorporating a request for the rationale related to each information unit sought. This would enable an exploration of participants' ability to give a reasoned exposition for the information sought (Baumann & Bourbonnais, 1982). Feedback from participants confirmed the appropriateness of the ten minute time frame and this was therefore adopted for use in the main study.

3.3.i.f Data Analysis

A quantitative approach to analysis was employed. Pre-pilot work focused upon the identification of key thematic units and the subsequent development of a coding frame. A review of the research on data acquisition strategies utilised by nurses (Hammond et al, 1966; Tanner et al, 1987; Jones, 1989; Grobe et al, 1991), coupled with the available nursing process literature (Carnevali et al, 1983; Yura & Walsh, 1983; Hunt & Marks-Maran, 1986), yielded initial information-seeking categories. The category related to method of data acquisition therefore included such items as structural format (sequential/haphazard), use of a model, and use of an assessment tool. While acknowledging the initial primacy of the physical domain (Maslow, 1970), a holistic approach towards data acquisition and patient assessment was followed (Henderson, 1966; McFarlane, 1976; UKCC, 1986). Thus assessment data was subdivided into the physical, psychological and social domains.

As a result of the pilot study a second draft of the coding frame was devised. Information units were collapsed as appropriate, for example, data relating to eating and drinking were subsumed under a single gastro-intestinal unit. The amended coding frame consisted of 57 items. It was tested on a random sample (10%) of the main data set which resulted in further amendments and the creation of a third and final coding frame. The presence or absence of an appropriate rationale was coded for each information unit. Furthermore, a distinction was made between those participants who simply made reference to the information required and those who indicated the need for detailed assessment data. The final coding frame consisted of 101 items in total. (Appendices III & IV).

In the process of analysis, the interpretation of the data presented by participants on the information sheets posed a significant challenge. In order to minimise ambiguity and maximise consistency, the data were initially interpreted from the left hand margin and from the top to the bottom of the page before scanning across the page. A random 10% of the sample data were coded by an independent researcher to test for coder reliability and consistency. Any disagreements were resolved through discussion and scrutiny of the data and the whole data set was recoded accordingly. The chi-square test, Kruskal-Wallis test and Mann-Whitney U test were applied to the data to explore relationships between the study groups. The Spearman's rank correlation coefficient test and Kruskal-Wallis test were used to explore relationships between performance in different elements of the study.

3.3.ii Simulation B: Care Planning Exercise

The video-tape simulation was developed in three phases:

1. Video-tape simulation of a nurse-patient admission interview.

2. Model care plan.

3. Scoring grid.

3.3.ii.a Video-Tape Development

The challenge was to depict a scenario which would reflect models of good practice and be of sufficient complexity to demonstrate discriminatory potential but which would also not disadvantage any one group. Knowledge of the content area of a simulation has proved an important contributing factor in performance on a simulation exercise (Holzemer et al, 1981). Further, the scenario needed to acknowledge the requirements of Statutory Instrument No. 1456 (1989) related to such issues as participation in care and the use of a holistic approach to care (UKCC, 1989). To maximise content relevance (Anastasi, 1976; Messick, 1989) an elderly client was chosen as the focus of the exercise in order to reflect demographic and in-patient trends in the United Kingdom (OPCS, 1989, 1994). All participants would, on reaching the final three months of their respective courses, have had the opportunity to care for elderly clients. The client was female, with multiple pathology, admitted with a history of dizzy episodes, falls and accompanying social problems. The problems selected were those with the potential to reflect a prominent nursing contribution and included problems with multiple social factors (Farrand et al, 1982). A script was therefore developed in which an elderly female client was being admitted to a ward (Appendix V).

3.3.ii.b Content Validation of Video-Tape Simulation Using an Expert Panel

In line with earlier studies (McGuire & Babbott, 1967; Dincher & Stidger, 1976; Holzemer & McLaughlin, 1988), content validity was enhanced by the use of a criterion group of experts at each phase of simulation development. The panel consisted of seven members drawn from clinical practice, research and education (Figure 4). Initial feedback was sought on the draft video script with specific reference to content accuracy and authenticity. Structured feedback from panel members was collated and where consensus emerged amendments were made.

Figure 4 Expert Panel for Development of Simulation Instruments

Expert Panel for Development of Simulation Instruments
NURSE RESEARCH DIRECTOR
PROFESSOR OF NURSING RESEARCH
LECTURER IN NURSING
FORMER LECTURER IN NURSING
WARD SISTER (ADULT CARE)
NURSE DIRECTOR (NURSING DEVELOPMENT UNIT)
STAFF NURSE (ADULT CARE)

3.3.ii.c Video-Tape Production

The production of the 12 minute video took place in a skills laboratory over a two day period and a number of challenges emerged. The first issue requiring resolution was related to 'fidelity' that is, the degree of truth to the real life situation required if the evaluating experience was to achieve the desired objective (Miller, 1987). Fidelity is classified in terms of degree, from 'low fidelity' paper and pencil simulations to 'high fidelity' exercises utilising either actors or patients. The instructional objective was for participants to diagnose presenting clinical problems and plan appropriate nursing care, given verbal information from the simulated scenario. Miller (1987) has suggested that to achieve this goal a 'high fidelity' simulation using actors to simulate the nurse-patient encounter is required, that is, the nearer to the 'real life' situation, the greater the face validity of the instrument. Trained actors have been shown to simulate diseases/problems to an acceptable degree of realism (Whitehouse et al, 1984).

Two actors were therefore required to play the role of nurse and elderly client respectively. An experienced actress and a drama graduate were finally recruited for the video production. Secondly, there emerged the issue of visual fidelity, that is, the challenge of creating a realistic visual scenario including choice of props and background sound. The latter entailed visiting a ward and recording background sound. Graphics, title sequences and music were produced separately and incorporated at a later stage. The video-tape was produced by the Television Unit , Centre for Educational Studies, King's College, London.

3.3.ii.d Pilot Study

The aims of this phase were to:

i Test the feasibility of the research design.

ii Test the technical feasibility of implementation and conduct further procedural refinement.

Data were collected on two separate occasions. In the first pilot study, the volunteer sample (n = 10) consisted of final year diploma students and in the second, the sample consisted of nursing degree students (n = 6).

3.3.ii.e Procedure

Access was gained through liaison with the respective head of each educational institution, followed by close collaboration with course leaders. The constraints under which participants were expected to perform were determined, and decisions made on the basis of research intent and availability of resources (Miller, 1987). Each pilot study was conducted in a classroom and began with an introduction and explanation of the research project. Every effort was made to create a relaxed ambience prior to the exercise in view of the potential negative affects of stress upon performance (Ruckholm & Viverais, 1993). It was important therefore to maximise participants' confidence and dispel any examination-like atmosphere. As discussed previously, however, in the first pilot study group morale was low as participants had been informed earlier in the day of poor local employment prospects. This posed problems for recruitment which was reflected in the small sample size (n = 10) drawn from the original cohort (n = 31). The volunteers were each given a set of paperwork prior to being shown the video-tape scenario. This consisted of: a local nursing history form for note taking, a blank sheet of A4 paper and a blank nursing care plan (Appendix VII). Participants were informed that they could make notes on either the local nursing history forms or on the blank sheet of paper provided. Instructions were set out on an overhead transparency, namely:

Admission Interview

> The following video is of a nurse-client admission interview. As the nurse with full responsibility for both planning and managing the care of this client, please note any relevant information on either the nursing history sheet or the blank sheet of paper.

At the end of the videotape an overhead projector illuminated the following instructions:

Care Plan

Using the form provided please now formulate a plan of care for this client.

Time allocated-30 minutes

Careful consideration was given to the time allocation for the care-planning exercise in view of the potential effects of time constraints upon performance. Members of the expert panel coupled with the Steering Group representatives were in agreement regarding a thirty minute time allocation. This was considered to be a realistic time frame in view of the usual time constraints imposed by normal workload in the clinical environment.

3.3.ii.f Issues Arising from the Pilot Study

The pilot study highlighted the importance of both appropriate VHS equipment and suitable support facilities for the effective conducting of the exercise. The background noise in the video proved distracting and a number of participants (n = 4) had difficulty acquiring relevant information. Further editing was therefore required to reduce the volume of the background sound. Furthermore, the 'evaluation criteria' component of the nursing care plan posed difficulties for some participants. This resulted in the inclusion in an overhead transparency of a reminder to participants that: 'evaluation criteria are the same as the criteria for evaluating care'.

3.3.ii.g Data Analysis

A two staged approach was required when developing the analytical tool, firstly, the development of a model care plan and secondly, the construction of a scoring grid.

Model Care Plan

Initial concerns revolved around the need to extrapolate the key hallmarks of a model nursing care plan, however, there is a paucity of literature, related to care planning. It was decided therefore following a review of the available literature to sample nurse educationalists' (n =5) views regarding the key characteristics of a model care plan. In reality, none used a scoring frame when assessing nursing care plans. Consensus did emerge however on the need for :

- problem prioritisation
- client- centred and measurable aims and goals
- nursing actions based on appropriate research
- set evaluation criteria

To further enhance content validity, once devised, the draft model care plan was circulated to panel members for comment. The final version consisted of nine identified problems each with five subsections:

- problem identification
- aims/goals
- nursing actions
- rationale
- evaluation criteria

Drawing upon the earlier work of Baumann and Bourbonnais (1982), the section entitled 'rationale' was incorporated as an additional discriminator vis-a-vis participants' ability to give a reasoned exposition for the nursing care outlined. For the purposes of this study, a rationale was defined as 'the reason cited by the participant for the stated nursing actions'.

Scoring Grid

The challenge of devising an appropriate scoring grid rested on the twin issues of validity and reliability. Initially two scoring grids were devised, the first consisted of broad categories and was characterised by a marked degree of flexibility. The second more structured grid was closely aligned with the model nursing care plan including additional marks for:

- holistic care
- client/patient participation in care
- appropriate knowledge base

Each of the five subsections was allocated ten marks which in turn were divided between data items. Marks for each item were allocated and agreed upon by expert panel members. The final data analysis therefore generated a global score and five subsection scores. Drawing upon the earlier work of McGuire and Babbott (1967) negative scoring was used for acts of omission in the less rigid scoring grid. Each item was awarded a positive or negative mark of a magnitude that reflected the judgement of the criterion group. To reward efficiency in problem-solving, a maximum score of fifty marks was allocated for each problem. A participant could not therefore acquire additional unwarranted marks because the maximum score could not be exceeded (Marshall, 1977).

3.3.ii.h Modification of Scoring Grid as a Result of Pilot Study

The two grids were subsequently tested on the pilot data (n=16 nursing care plans). The structured grid proved more robust, reducing the risk of subjectivity and arbitrary rating. The use of negative weighting, however, proved punitive and was therefore rejected. An additional score (total number of incidents) was also devised for unsafe nursing practice, that is, actions which posed a threat/hazard to the safety of the client/others (Hunt, 1974). A redundant data score (word count) was also incorporated in the final scoring system. The concept of a redundant data score drew upon Marshall's (1977) study of clinical problem-solving, emphasising the need for efficiency in problem resolution. This resulted in the generation of seventeen potential scores for each participant:

- global score
- individual problem scores (problems 1-9)

- five sub section scores
- redundant data score
- unsafe practice score

3.3.ii.i Item Weighting

Analysis of a sub-set of the main data set (10%) revealed problems similar to those encountered by McGuire and Babbott (1967), namely, how best to ensure that the most efficient clinical problem-solver obtained the highest score. Earlier work by Elstein et al (1978) and Bligh (1980) had demonstrated the greater discriminatory potential of a weighted scale. Using the criterion group of experts therefore, problems were prioritised and weighted accordingly. A three point weighting scale was devised:

- Problem 1: weighted x 4

- Problems 2 to 5: weighted x 2

- Problems 6 to 9: weighted x 0.25

The weighting ensured that the final global score was a more valid reflection of participants' efficiency in clinical problem-solving and reflected the need to reward those who problem solved efficiently, and avoided irrelevant and incorrect data.

3.3.ii.j Rater Reliability

Further challenges to emerge included the issue of rater reliability over a period of time, in view of the seventeen months data collection time scale. Scoring guidelines were devised to help clarify areas of potential ambiguity. Further, to enhance rater reliability, a random sample (10%) of the main data set was also scored by an independent researcher and the scores discussed, followed by amendments to the scoring guidelines as required prior to the commencement of main data analysis. In addition, to prevent rater drift, further periodic meetings with an independent researcher were incorporated into the main data analysis period.

3.3.ii.k Statistical Analysis of Nursing Care Plan Scores

The data generated were at the ordinal level and were subjected to non-parametric statistical tests, specifically, the Kruskal-Wallis and Mann-Whitney U tests. Statistical significance was computed at the 0.05% level.

3.3.ii.l Concurrent Validity of the Video-Tape Simulation

Evidence for the concurrent and predictive validity of clinical simulations is limited (Holzemer & McLaughlin, 1988). A number of studies have found the relationship between simulation scores and clinical performance to be weak (Donnelly & Gallagher, 1978; Holzemer et al, 1986; Padrick, 1990). However, a modest positive correlation has been found in other studies (Holzemer et al, 1981). In this study concurrent validity was examined by comparing the rank order of participant performance on the video simulation exercise with participants' performance as evaluated by non-participant observation in the ward setting utilising a fifty-three item rating scale (Fitzpatrick et al, 1994b). Following Dincher and Stidger (1976), statistical analysis was computed using Spearman's rank correlation coefficient test. The test was selected because as a method of correlation it has a high degree of efficiency, almost equal to that of Pearson r, the most powerful parametric correlation. The latter could not be used because it requires a normal distribution and an interval scale. Spearman's rho requires that both variables be measured in an ordered scale which was consistent with the study data set. The results showed a modest correlation between the global score for the care plan and the total observation score (rs =0.185. $p<0.05$). Using the Spearman's rank correlation coefficient test, a statistically significant association also emerged between a higher global score for the care plan and a higher observation score for use of the nursing process in planning care in the ward setting (rs =0.181.$p<0.05$). Such modest evidence of concurrent validity is associated with the complexity of skills under review coupled with the problem of inconsistency of performance in terms of the transferability of skills across the theory-practice divide (Bendall, 1973; Benner, 1984).

3.3.ii.m The Internal Consistency of the Video-Tape Simulation

The Cronbach's alpha technique was used to explore the internal consistency of the simulation scoring system. The scoring grid yielded a modest total coefficient alpha (r = 0.62) using the mean of the five subsection scores. The coefficient alphas for the five subsections were as follows: subsection 1 [problem identification] (r =0.19, n=98); subsection 2 [aims and goals] (r =0.15, n=98); subsection 3 [nursing action] (r = 0.34, n=98); subsection 4 [evaluation] (r =0.22, n=98); subsection 5 [rationale] (r =0.38, n=98). Nunally's (1978) criteria of 0.80 was not reached, which suggests low homogeneity of the subsections within the instrument. This result in turn reflects the inconsistency of performance by participants in the exercise. Inconsistency, that is, in terms of transferable skills both in subsection performance across problems as well as between subsections and potentially within subsections. Elstein et al (1978) referred to this phenomenon as the 'content specificity problem' which has been consistently found across formats (De Graaff et al, 1987; Page et al, 1990). This problem may be a reflection of the contextual nature of clinical problem-solving (Benner, 1984; Holzemer et al, 1986). If this is the case, then as Holzemer et al (1986) have suggested, existing tests for estimating reliability may not be the most appropriate. As a test of internal consistency, Cronbach's alpha examines independent elements within an instrument and as a result , an instrument designed around independent elements will inevitably produce low alpha coefficients. To conclude, while the subsection alpha coefficients are low, further tool refinement and testing of the instrument in a future study will be worthwhile given the promising total coefficient alpha for the instrument. In view of this, the tentative nature of the subsequent findings is highlighted.

3.3.iii Non-participant Observation

Beare (1985) has argued that actual performance in the real life situation is the most important outcome of an educational experience and While (1994) has highlighted the failure of some nurses to translate competence into actual situated behaviour in the clinical setting. The UKCC (1992a) Code of Professional Conduct has outlined minimal levels of performance and these, together with an acknowledgement of the importance of actual care delivery in meeting health care quality assurance targets, that is, what recipients of care actually receive underpinned this element of the study.

It has been recommended that if data were required regarding how people actually behave in their natural environment , whether and how they actually use their skills, or the events which occur in the course of normal activities then direct observation should be employed (Crow, 1984, p90-91). In this study direct observation was considered the most appropriate method to measure actual-situated behaviour and an observation instrument was developed as the recording device.

3.3.iii.a The Observer Role

The observation method encompasses a range of roles which one may adopt as an observer and in this study the role of non-participant observer was adopted, that is, the researcher was present in the field setting as a known observer who remained non-participant during the observation period. This role it was anticipated would enhance the potential for behaviour to progress 'as usual', as well as facilitating effective observer performance and has been successfully utilised by other researchers in the nursing field (Ashworth, 1980; Carr, 1988; Gould, 1993). Further, it was the advocated observer role for users of the Slater Nursing Competencies Rating Scale (Wandelt & Stewart, 1975) and Qualpacs instrument (Wandelt & Ager, 1974).

3.3.iii.b Recording Observational Data

The literature reviewed highlighted the limited use of direct observation to explore nurse performance and of further significance was the absence of a well-validated and reliable observation measurement instrument. Indeed the difficulties associated with the development of a performance measurement tool are well acknowledged in the literature (Popham, 1981; Peterson et al, 1985; While, 1991; Fitzpatrick et al, 1994b). Of existing instruments, the Slater Nursing Competencies Rating Scale (Wandelt & Stewart, 1975) was identified as a generic tool which focused observation upon nurse performance in the process of delivering patient care. The 84 item scale had been tested for reliability (using inter-rater reliability, stability and internal consistency tests) and for construct, content, predictive and discriminant validity (Ager & Wandelt, 1975). The Slater Scale also forms the basis for the quality assessment instrument Qualpacs (Wandelt & Ager, 1974) which was found by Redfern et al (1994) to be the most valid of three popular generic quality assessment instruments in use in the United Kingdom.

3.3.iii.c Development of the Nurse Performance Scale

The Nurse Performance Scale developed for use in this study drew heavily upon the Slater Nursing Competencies Rating Scale (Fitzpatrick et al, 1994b) but also incorporated significant indicators of effective nurse performance derived from an extensive review of both theoretical and empirical literature, the thirteen learning outcomes set out in Statutory Instrument No. 1456 (1989) and the UKCC (1992a) Code of Professional Conduct. Thus every effort was made to ensure that content was specific to and represented a current understanding of nurse performance in the United Kingdom (Moser & Kalton, 1971, Anastasi, 1976; Nunally, 1978; Cronbach, 1984; Peterson et al, 1985).

The first draft of the Nurse Performance Scale consisted of 67 items grouped into seven subsections with four of these subsection headings reflecting those used in the Slater Nursing Competencies Rating Scale, namely: 'physical domain'; 'psychosocial domain';

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'communication skills'; and 'professional implications'. The other subsections were: 'use of the nursing process in planning care'; 'promotion of health and teaching skills'; and 'care management skills and the organisation of workload'. During the developmental phase items in the Nurse Performance Scale were constructed with the aim of producing a generic set of observable nursing actions amenable to accurate discrimination and care was taken to ensure their mutual exclusiveness and logical coherence. A cue sheet similar to that which accompanied the Slater Nursing Competencies Rating Scale was also developed concurrently to enhance item identification and discrimination during observation (Appendix XI). A panel of nine experts drawn from clinical, education and research settings (Figure 5) together with the study Steering Group were involved in commenting upon the scale as a whole, as well as the appropriateness of subsections and individual items. The experts and Steering Group members were asked to review the instrument for clarity, comprehensiveness, mutual exclusiveness and appropriateness and to score each item as an observable indicator of effective nurse performance. The process of reduction and refinement resulted in a second draft of the instrument which consisted of 54 items grouped into seven subsections. Review of the second draft resulted in further modifications and a 53 item instrument (Appendix X).

Figure 5 Expert Panel for Development of the Observation Instrument

Expert Panel for Development of the Observation Instrument.
PROFESSOR OF NURSING
DIRECTOR OF NURSING RESEARCH
RESEARCH OFFICER IN NURSING
CLINICAL NURSING LECTURER
NURSE LECTURER-PRACTITIONER
WARD SISTER (ADULT CARE)
3 STAFF NURSES (ADULT CARE)

3.3.iii.d Selecting Appropriate Rating Criteria

To rate nurse performance using the Nurse Performance Scale several approaches were considered. The Slater Nursing Competencies Rating Scale (Wandelt & Stewart, 1975), for example, incorporates the use of a rating scale as the recording device and observers may adopt either an individual or general frame of reference to operationalise the standard of measurement. The standard of measurement is defined by Wandelt and Stewart (1975) as:

"the quality of performance of care expected of a first level staff nurse, that is, one who is charged with the responsibility for providing nursing care that is safe, adequate, therapeutic and supportive in meeting the needs of patients" (pxiii).

Using an individual frame of reference observers using the Slater Nursing Competencies Rating Scale are required to identify exemplars of nurses on a five point scale: 'best, between best and average, average, between average and poorest and poorest' against which performance is rated. Alternatively, observers administering this instrument may adopt a general frame of reference to rate performance using qualitative labels such as 'excellent, above average, average, below average and poor'. It has been highlighted however, that undefined or vague definitions may compromise reliability and validity owing to difficulties of interpretation (Gronlund, 1981; Popham, 1981; Bondy, 1983). Thus it may be argued that Slater's individual or general frame of reference has a professional base which may be idiosyncratic. In an attempt to minimise such problems careful definition of the criteria by which behaviour was to be judged was paramount.

In this study the standard of measurement was derived from an agreement regarding sound professional practice taking into account the thirteen learning outcomes of Statutory Instrument No 1456 (1989) and the requirements of the Code of Professional Conduct (UKCC, 1992a). Of the alternative rating criteria reviewed (Fitzpatrick et al, 1994b), Bondy's (1983) five point criterion referenced rating scale appeared to be the most robust and the positive effect of its use on accuracy and reliability of ratings has been demonstrated (Bondy, 1984). Bondy (1983) suggested five levels of performance, namely: independent, supervised, assisted, marginal and dependent, together with a 'not observed' category. The 'not observed' category was not included in this study and instead an 'omitted care' column was created since Redfern et al (1993) have argued that there is a distinction between 'poorest care' and 'omitted care' which is potentially illuminating. For the process of rating Bondy's (1983) levels of performance were considered under three key categories. The first category, professional standards and procedures, encompasses the issues of safety, accuracy, effect and affect. The focus of the second category is the qualitative aspects of performance and includes the use of time, space, equipment and energy. Demonstration of persistence under adverse circumstances is also considered within this category. The final category addresses the type and degree of assistance required to carry out the nursing activity. (Appendix XII).

3.3.iii.e Operationalisation of the Nurse Performance Scale

The challenge of maximising valid non-participant observation was considered with much care by the research team and a variety of strategies were employed to decrease the potential sources of researcher bias (Fitzpatrick et al, 1994c). Observer training focused upon: utilisation of the instrument; addressing potential observer biases; potential observer influence upon participant behaviour; potential influence of situational variables on the behaviour of those observed; potential influence of personal factors on the behaviour of those observed; potential of observer drift over time; and reliability of observer rating. To facilitate effective use of the Nurse Performance Scale guidelines were developed drawing upon the Slater Nursing Competencies Rating Scale manual (Wandelt & Stewart, 1975) and the Qualpacs manual (Wandelt & Ager, 1974) (Appendix XIII). Training sessions were conducted using videotapes depicting direct nurse-patient interactions/interventions which comprised physical care-giving as well as communication skills. The sessions focused upon developing an understanding of the salient issues including: the scale items and their cues; definition of a care event; use of Bondy's rating criteria in conjunction with the standard of measurement; and the recording of contextual information. Initially observers rated the videotape scenes retrospectively using the Nurse Performance Scale until agreement was reached and then sessions were conducted where concurrent ratings were performed.

3.3.iii.f Pilot Study

The pilot study was undertaken to:

i Test the feasibility of the observation instrument.
ii Test the feasibility of the rating criteria.
iii Conduct further procedural refinement.

3.3.iii.g Procedure

The pilot study extended over a three-month period and the sample which consisted of final year diploma students (n=7) and nursing degree students (n=5) was drawn from a location which was not involved in the main study. Participants were observed continuously for 2 $^1/_2$ hours as recommended by the authors of the Slater Nursing Competencies Rating Scale (Wandelt & Stewart, 1975). Observations were conducted on three separate occasions at different times of the day. A series of three observations for each participant was considered useful for several reasons, including accommodating the potential influence of personal variables on behaviour as well as situational variables (Harrington & Theis, 1968; Asso, 1987; Feldt & Brennan, 1989; While, 1994).

3.3.iii.h Issues Arising from the Pilot Study

Field testing of the Nurse Performance Scale resulted in minor item modification on the basis of observer feedback; no item reduction occurred. The supervised level of performance was deleted from the criterion-referenced rating scale because of difficulties in discriminating between the independent and supervised level with the latter rarely being rated during the pilot work. Specifically, the criteria for 'professional standards and procedures' was identical for both the independent and supervised levels and there appeared to be minimal distinction between the levels in the 'qualitative aspects of performance'. The only distinction lay in the type and degree of assistance required to perform the nursing activity. Bond and Jackson (1990) had similar problems in distinguishing between 'very good' and 'outstanding' when using their clinical evaluation instrument.

The observation periods for the main study were identified as: a morning session (commencing observation at the beginning of the participant's shift), an afternoon session (when the participant had been working an early shift) and an evening session, commencing observation at 1700. Further insight regarding observer procedure was also gained during the pilot phase. For example, improved shadowing technique and the importance of allowing adequate time to explain the study and the role of the observer to the nurse-in-charge prior to commencing observation.

3.3.iii.i Observer Reliability

Observer agreement was examined during both the pilot and main phases of the study. In the pilot study participants were initially observed by both observers and observations were conducted jointly until agreement was achieved. Subsequently the observers separated before returning to observe jointly at the end stage of the pilot phase. Examination of the standard deviation and the mean of the differences between the two observers suggests that acceptable levels of inter-rater reliability were achieved (Table 1).

Throughout the main data collection phase the research team held meetings at least weekly to discuss problems encountered and to maintain observer agreement. The small number of joint observer sessions during the main phase (n=3) did not permit inter-rater reliability to be tested statistically. However, examination of the standard deviation and the mean of the differences between the two observers suggests that acceptable levels of inter-rater reliability were achieved (Table 3).

3.3.iii.j Observer Drift

An independent rater was also used to assess potential observer drift over the three month pilot study and two joint observation sessions were conducted. During the main observation data collection period four joint observation sessions were conducted to assess potential observer drift. Examination of the standard deviation and the mean of the differences between the two observers suggests that observer drift was minimal for both the pilot study and main study (Tables 2 & 4).

Table 1 Interobserver Reliability for the Pilot Data Collection Period

	STANDARD DEVIATION OF DIFFERENCES BETWEEN OBSERVER 1 AND OBSERVER 2	MEAN OF DIFFERENCES BETWEEN OBSERVER 1 AND OBSERVER 2	POTENTIAL VARIABILITY (+/ - 2 X SD)
TOTAL OBSERVATION SCORE	0.21	-0.03	0.42
SUBSECTION 1 PHYSICAL DOMAIN	0.36	-0.10	0.72
SUBSECTION 2 PSYCHOSOCIAL DOMAIN	0.71	-0.50	1.42
SUBSECTION 3 PROFESSIONAL IMPLICATIONS	0.31	-0.07	0.62
SUBSECTION 4 PROMOTION OF HEALTH AND TEACHING SKILLS	0.23	-0.13	0.46
SUBSECTION 5 CARE MANAGEMENT SKILLS AND THE ORGANISATION OF WORKLOAD	0.12	-0.07	0.24
SUBSECTION 6 COMMUNICATION SKILLS	0.26	-0.10	0.52
SUBSECTION 7 USE OF THE NURSING PROCESS IN PLANNING CARE	0.21	0.07	0.42

Table 2 Potential Observer Drift for the Pilot Data Collection Period

STANDARD DEVIATION OF DIFFERENCES BETWEEN INDEPENDENT OBSERVER AND OBSERVER 2 FOR THE TOTAL OBSERVATION SCORE	MEAN OF DIFFERENCES BETWEEN INDEPENDENT OBSERVER AND OBSERVER 2 FOR THE TOTAL OBSERVATION SCORE	POTENTIAL VARIABILITY (+/ - 2 X SD)
0.14	0.10	0.28

Table 3 Interobserver Reliability for the Main Data Collection Period

	STANDARD DEVIATION OF DIFFERENCES BETWEEN OBSERVER 1 AND OBSERVER 2	MEAN OF DIFFERENCES BETWEEN OBSERVER 1 AND OBSERVER 2	POTENTIAL VARIABILITY (+/ - 2 X SD)
TOTAL OBSERVATION SCORE	0.16	-0.08	0.32
SUBSECTION 1 PHYSICAL DOMAIN	0.64	0.00	1.28
SUBSECTION 2 PSYCHOSOCIAL DOMAIN	INSUFFICIENT DATA TO COMPUTE STANDARD DEVIATION	INSUFFICIENT DATA	INSUFFICIENT DATA
SUBSECTION 3 PROFESSIONAL IMPLICATIONS	0.74	-0.24	1.48
SUBSECTION 4 PROMOTION OF HEALTH AND TEACHING SKILLS	0.74	0.12	1.48
SUBSECTION 5 CARE MANAGEMENT SKILLS AND THE ORGANISATION OF WORKLOAD	0.06	-0.06	0.12
SUBSECTION 6 COMMUNICATION SKILLS	0.18	-0.02	0.36
SUBSECTION 7 USE OF THE NURSING PROCESS IN PLANNING CARE	0.23	-0.15	0.46

Table 4 Potential Observer Drift for the Main Data Collection Period

STANDARD DEVIATION OF DIFFERENCES BETWEEN INDEPENDENT OBSERVER AND OBSERVER 2 FOR THE TOTAL OBSERVATION SCORE	MEAN OF DIFFERENCES BETWEEN INDEPENDENT OBSERVER AND OBSERVER 2 FOR THE TOTAL OBSERVATION SCORE	POTENTIAL VARIABILITY (+/ - 2 X SD)
0.38	0.26	0.76

3.3.iii.k Data Analysis

Procedure for Calculating a Mean Score for each Participant

Using Bondy's (1983) modified rating scale the levels of performance were numerically weighted as follows: independent (4), assisted (3), marginal (2) and dependent (1). Omitted was not assigned a numerical weighting but was reflected in the total number of ratings for each observation period. Initially several observation scores were calculated using the following formulae:

A. $$\frac{1}{3}\left(\frac{\text{sum of weighted total 1}}{\text{no. of ratings 1}}+\frac{\text{sum of weighted total 2}}{\text{no. of ratings 2}}+\frac{\text{sum of weighted total 3}}{\text{no. of ratings 3}}\right)$$

Using method A, a score was calculated for each occasion by dividing the weighted total sum by the number of ratings. These three scores were then averaged.

B. $$\frac{\text{Sum of weighted totals}}{\text{Total no. of ratings}}$$

Using method B, the total weighted sum over all three occasions was divided by the total number of ratings. In effect the scores are averaged but are weighted according to the number of ratings on each occasion.

On examination of the mean scores generated using both methods minimal differences emerged. Since method B facilitated ease of computation this formula was adopted to calculate the mean score for each participant. The Kruskal-Wallis test, Mann-Whitney U test and Spearman's rank correlation coefficient test were applied to the data to explore relationships between the different participant groups and between different elements of the study.

Procedure for Examining Observational Data Using the Levels of Performance of the Criterion-Referenced Rating Scale

As an alternative strategy, for each subject the number of ratings at each level of performance for each subsection of the Nurse Performance Scale was counted across the three observation sessions. This count was then expressed as a percentage of the global number of ratings for each subsection. Thus the percentage of occasions at which there was independent, assisted, marginal and dependent performance was calculated. Omitted care was also explored. The Kruskal-Wallis and Mann-Whitney U tests were applied to the data to explore relationships between the different participant groups.

3.3.iii.1 Internal Consistency of the Nurse Performance Scale

Cronbach's alpha was applied to explore the Nurse Performance Scale's internal consistency, and the total scale yielded a coefficient of r =0.93 using the means of the subsection scores (n=98). (1 missing case due to insufficient data for analysis). It was only possible to calculate an alpha coefficient for 3 of the 7 subsections using the item means (where > 50 cases were included). The coefficient alphas were: 'physical domain' r = 0.74 (n= 51), 'professional implications' r = 0.70 (n=60) and 'promotion of health and teaching skills' r = 0.71 (n= 61). The subsection alphas did not reach Nunally's (1978) criterion of 0.80 which suggests independent components within the subsections of the instrument. Interestingly, insufficient score data in the psychosocial: group section for Qualpacs ratings was a significant problem in both Carr-Hill et al's (1992) and Redfern et al's (1994) research.

An alternative method was also used to compute coefficient alphas for the subsections, that is, using the mean score for each observation period. Using this method the coefficient alphas for the subsections did not reach the criterion of 0.80 specified by Nunally (1978): 'physical domain' (r = 0.58 n=99), 'psychosocial domain' (r = 0.53 n=62); 'professional implications' (r = 0.60 n=99); 'promotion of health and teaching skills' (r = 0.46 n=93); 'care management skills and the organisation of workload' (r = 0.60 n=99); 'communication skills'

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($r = 0.65$ n=99); 'use of the nursing process in planning care' ($r = 0.72$ n=99). While the results suggest some independence within the subsections of the Nurse Performance Scale, there is evidence nonetheless of overall coherence and the Cronbach's alpha coefficient of $r = 0.93$ is superior to that published for the Slater Nursing Competencies Rating Scale of $r = 0.74$ (Ager & Wandelt, 1975).

3.3.iv Interview

The use of higher cognitive skills including critical, creative and reflective thinking is recognised as important to high quality nursing performance (Fitzpatrick et al, 1992). An interview provided the opportunity for thinking skills to be explored together with an exploration of events perceived as important by the participants during the respective educational programmes.

3.3.iv.a The Semi-Structured Interview Schedule

A semi-structured schedule formed the basis of the interview enabling probing when necessary for clarification (Appendices XIV & XV). The other strengths of a semi-structured interview technique were also considered advantageous (Barriball & While, 1994). The interview explored the following areas: events considered significant to the participants' nursing practice; events considered to demonstrate high and low quality nursing care; issues considered important to their practice; the participants' views of their strengths regarding practice; and conversely practice areas in which they felt less confident; and finally key persons who have influenced the participants' development as nurses. The schedule was developed expressly to collect interview data that would complement data collected in the other elements of the study and therefore focused upon gaining data which might provide insight into the participants' perception of practice and events underpinning this perception. The exploration of views regarding high and low quality practice utilised two questions which had been successfully developed from Flanagan's (1954) Critical Incident Technique by Redfern et al (1994). The remaining five questions on the schedule were developed for this study.

3.3.iv.b Pilot work

The aims of the pilot study were:

i Further refinement of the interview schedule.

ii Further refinement of interviewer technique.

3.3.iv.c Procedure

The interview was tested on 9 student nurses (7 final year diploma students and 5 nursing degree students) drawn from a location which was not involved in the main study. This phase resulted in some minor word modification to the questions and crucially also provided the opportunity for interviewer training. The interviews for both phases of the study were scheduled at times convenient to the participants and were recorded on audio-tape.

3.3.iv.d Data Analysis

For the main data collection phase a random selection of eight interviews from each centre (72 of the 99 interviews) were transcribed verbatim. The remaining interviews were analysed through listening to the audio-tapes. Transcriptions provided a visual display of the data which was useful during the development of the coding frames and facilitated discussions with an independent coder. All interviews were listened to on repeated occasions to enhance data familiarisation and increase accuracy of interpretation. The interview data were coded thematically for both manifest and latent content. A random selection of twenty interviews were used to inform the development of the coding frames and this process was facilitated by the concurrent development of coding instructions. An independent researcher coded a random 10% of the data set to maximise coder consistency. Any disagreements were discussed and the interview data was scrutinised until an agreement was reached. Subsequently all interview data were recoded. An attempt was made to distinguish different levels of critical, reflective thinking through the application of a 'Levels of Explanation' guide (Barriball, 1994) which had been used in another interview study. The 'Levels of Explanation' guide was generated from the While and Barriball interview data (n=449) regarding practitioners' views of high and low quality practice and also drew upon empirical work including that of Fish et al (1991). It is accepted that as a complete measurement tool of critical, reflective thinking the interview needs further refinement but time constraints did not permit further work to be undertaken. Descriptive statistics are presented for the interview data and the chi-square test was applied to explore the Levels of Insight data.

3.4 Review of Curriculum Documents

The research took place at a time of unprecedented change in the health care and educational environments and correspondence with the study centres confirmed that the pre-registration nurse education courses had developed to reflect these changes. Sohn (1991) has offered suggestions regarding approaches to curricula analysis derived from such work undertaken in Canada and the United States. However, in the current study the available documentary evidence of curricula was variable and the study centres emphasised that the available curriculum documents were proposals at the time of course validation which had undergone considerable change since that time. Uniformly the curricula's general aims reflected Statutory Instruments (No. 873, 1983 or No. 1456, 1989) which govern the requirements for admission to the professional register, however, in all other aspects the course curricula were very diverse. For example, they were based upon a variety of curriculum models and followed different curriculum sequencing of material and topics. Indeed, a variety of themes such as developmental stages, health-illness interface, location of care and the nurse's roles (Sohn, 1991) emerged at different points in the course curricula. For the purpose of this research the intended outcomes of the courses were therefore considered to be encompassed within the relevant Statutory Instruments (No. 873, 1983; No. 1456, 1989).

Of particular interest regarding this study was the use of teaching methods similar to those employed in the simulations. No programme centre had used video-tape simulations as a teaching method and while it is likely that 'brain storming' and similar approaches had been used as methods of teaching, no centre staff could recall having engaged previously in information-seeking exercises of the type employed in this study.

3.5 Sample

It was acknowledged that increasing sample size (N) reduces the potential occurrence of Type I and Type II errors and enhances representativeness and generalisability of the findings (Blalock, 1960; Siegel and Castellan, 1988; Cohen, 1992). Cohen (1992), an authority in the field of statistical power analysis, has noted that a sample size of n=39 for each independent group is required to detect large effect sizes at $p<0.05$ for a Chi-square test with 2 degrees of freedom at power = 0.80. Advice was also sought from a statistician and it was decided that 39 students would be recruited for each programme research group. In reality, however, the different educational programmes did not include similar numbers of students with the integrated degree programme having relatively small annual intakes. Further, the development of the Nurse Performance Scale in particular together with the other elements of the research design left ideally 12 months for data collection. This resulted in recruitment of a total sample size of 99 (See Table 6 for distribution of the sample across programmes).

The sample was selected from three institutions providing each type of educational programme so that the potential bias of individual programmes contaminating the findings would be minimised. All the institutions were located in South East England and were assured anonymity. The selection of South East England was made on several grounds, these included: the evidence that one third of all general nurse training for Part One of the Register (RGN) was located in South East England (ENB, 1993); wider societal cultural differences would be minimised although the research team was unable to find empirical evidence of locational cultural differences between nurse education institutions; a geographical restriction permitted multiple overlap between institutions e.g. sharing of practice placements and academic links; and finally, geographical restriction permitted more efficient interfacing of data collection between different elements of the study and different centres. The RGN programmes and integrated RGN degree programmes were well established. The P2000 diploma programmes were in their infancy although one of these programmes was represented by students of the second intake and half the sample of another centre was also recruited from a second intake.

As in all research involving human subjects, participation in the study was voluntary and informed consent was sought from all participants. Information regarding the research project was presented to potential participants at the first meeting between each cohort and the research team. A standard explanation was delivered at each of the nine participating centres thus ensuring a common frame of reference. Additionally, all potential participants were given a standard information leaflet which displayed a brief summary of the research as well as photographs of the research team. In an attempt to control for extraneous personal variables, students were invited to participate in the study if they fulfilled the following criteria: female, childless, Caucasian, under 25 years of age and held 2 or more passes at A level and were not working in Accident and Emergency or peri-operative departments where non-participant observation had proved difficult during pilot work. Potential participants for the non-participant observation and interview elements were approached individually following completion of the simulation element of study. Recruitment to the simulation element of the study was invited at a programme meeting and no student wishing to participate in the simulation element was refused. However, on the basis of fulfilment of study recruitment criteria their data were set aside from the study data. Thus the study sample was selected from three P2000 diploma programmes, three RGN programmes and three integrated degree programmes although on occasions the research team recruited all those who had fulfilled as many of the recruitment criteria as possible. The sample recruitment strategy is set out in Table 5.

Table 5 Sample Recruitment

Centre	No. in cohort	No. completed simulation exercise *	No. recruited to 3 elements +
Centre A	n=38	n=28	n=13
Centre B	n=43	n=34	n=13
Centre C	n=22	n=19	n=10
Centre D	n=22	n=19	n=8
	n=21	n=15	n=3
Centre E	n=68	n=20	n=6
	n=67	n=8	n=4
Centre F	n=17	n=13	n=9
Centre G	n=27	n=26	n=12
Centre H	n=19	n=19	n=10
Centre I	n=43	n=41	n=11
Total	n=387	n=242	n=99

* All those who volunteered to participate in the study.

+ A random selection of all those who volunteered to participate in the study and who fulfilled as many of the recruitment criteria as possible.

The participants were recruited to the study during the last three months (excluding sick leave) of their programmes. The characteristics of the 99 participants are set out in Tables 6-8 with two participants being 26-27 years of age. The different educational background of some of the participants is also noteworthy; those with the highest educational qualifications were recruited where there were no students fulfilling the original recruitment criteria.

3.6 Data Collection Time Table

Data collection was planned to take 12 months but this was extended so that data were collected over a 17 month period. Table 9 sets out the period of data collection which commenced in August 1992 and was completed in December 1993.

3.7 Data Analysis Strategy

Analysis of all data commenced on completion of data collection. Analysis of data for simulations A (Information-seeking exercise) and B (Care-planning exercise) was conducted blind. For each method data were analysed at the descriptive and inferential level. For descriptive analysis the median was chosen due to its non-sensitivity to extreme values making it suitable in view of the non-normal distribution of this data set (Blalock, 1960; Cohen & Holliday, 1982). Unless otherwise stated the conventional level of significance was $p<0.05$ (Cohen, 1992).

To explore relationships between different participant groups and between different elements of the study non-parametric tests were utilised since data were at the nominal and ordinal level of measurement. Specifically, the Chi-square test, Kruskal-Wallis test, Mann-Whitney U test, and Spearman's rank correlation coefficient test were utilised. Regarding rejection of the null hypothesis using the Chi-square test, the nature of the relationship was explored by examining the pattern of the cells that had more or less than the expected number of observations. To examine the size of the discrepancy between expected and observed the contribution of the cell to the total Chi-square value was gauged using the standardised residuals. The standardised residuals are the square-root of the Chi-square contribution and are positive if the observed is greater and negative if it is less. Figure 6 on page 74 sets out the strategies employed for data analysis.

Table 6 Distribution of the Sample across the Programme Groups

Programme of Preparation	**Nº**	**Nº of subjects from each centre**
RGN programme	34	Centre A 13 Centre C 10 Centre D 11
P2000 diploma programme	34	Centre B 13 Centre E 10 Centre I 11
Integrated degree programme	31*	Centre F 9 Centre G 12 Centre H 10
Total	99	

* One subject participated in three of the four elements of the research, i.e. the information-seeking exercise, non-participant observation and interview. Therefore the simulation B (care plan) sample consisted of ninety eight participants (n=98).

Table 7 Age Distribution of the Sample across the Programme Groups

Programme of Preparation	**Nº**	**25 yrs and under**		**26-27 yrs**	
RGN programme	34	**N** 32	**%** 94.1	**N** 2	**%** 5.9
P2000 diploma programme	34	**N** 34	**%** 100	**N** 0	**%** 0
Integrated degree programme	31	**N** 31	**%** 100	**N** 0	**%** 0
Total	99				

Table 8 Distribution of Highest Educational Qualification on Entry to the Programme of Preparation

Programme of Preparation	**Nº**	**4-9 GCSEs**		**1> A Levels**		**Total**	
RGN programme		**N**	**%**	**N**	**%**	**N**	**%**
	34	7	20.6	27	79.4	34	100
P2000 diploma programme		**N**	**%**	**N**	**%**	**N**	**%**
	34	14	41.2	20	58.8	34	100
Integrated degree programme		**N**	**%**	**N**	**%**	**N**	**%**
	31	0	0	31	100	31	100
Total						99	100

Table 9 Data Collection Timetable

Centre	**N^o**	**Simulation Data Collection**	**Non-Participant Observation and Interview Data Collection**	
Centre A	13	August 1992	October 1992- November 1992	
Centre B	13	September 1992	November 1992- December 1992	
Centre C	10	November 1992	January 1993- February 1993	
Centre D	11	January 1993 and April 1993	February 1993- March 1993	June 1993- July 1993
Centre E	10	December 1992 and April 1993	February 1993- March 1993	July 1993- August 1993
Centre F	9	April 1993	May 1993- June 1993	
Centre G	12	May 1993	June 1993- July 1993	
Centre H	10	June 1993	August 1993- September 1993	
Centre I	11	August 1993	September 1993- December 1993	
Total	99			

Figure 6 Strategies for Data Analysis

Instrument	Descriptive Analysis	Statistical Analysis for Performance between Different Participant Groups	Statistical Analysis for Performance between Different Elements of the Study	Reliability and Validity Testing
Simulation A: Information-seeking **(Chapter 4)**	Instrument scores: Minimum and maximum scores Median scores	. Chi-square test . Kruskal-Wallis test . Mann-Whitney U test	. Spearman's Rank Correlation coefficient test . Kruskal-Wallis test	
Simulation B: Care Plan **(Chapter 5)**	Instrument scores: Minimum and maximum scores Median scores	. Chi-square test . Kruskal-Wallis test . Mann-Whitney U test	. Spearman's Rank Correlation coefficient test	. Cronbach's alpha coefficient
Non-participant Observation **(Chapter 6)**	Instrument scores: Mean total observation scores Mean subsection scores	. Kruskal-Wallis test . Mann-Whitney U test	. Spearman's Rank Correlation coefficient test . Kruskal-Wallis test	. Interobserver agreement (Standard deviation of differences between observers Mean of differences between observers) . Cronbach's alpha coefficient
Interview **(Chapter 7)**	. Events considered significant to participants' practice . Events considered to demonstrate high and low quality nursing practice . Issues considered important to participants' practice . Participants' views of their practice strengths . Participants' perceived confidence deficits . Key persons considered by participants' to have influenced their professional development	. Chi-square test to explore Levels of Insight.	. Chi-square test . Kruskal-Wallis test	

A total of ninety-nine subjects (n=99) participated in the information-seeking element of the simulation. Descriptive and inferential statistics are presented for the simulation data explored with the following variables:

a). Programme of preparation.
b). Highest educational qualification.
c). Centre.

4.1. Programme of Preparation

4.1.i Information-Seeking Strategies

4.1.i.a Total Information-Seeking Units

Table 10 Programme of Preparation by Total Information-Seeking Units

Programme of Preparation	**Median Nº Units Requested**	**Minimum Nº Units Requested**	**Maximum Nº Units Requested**
Integrated degree programme (n=31)	18.0	8	27
P2000 diploma programme (n=34)	16.0	7	27
RGN programme (n=34)	18.5	8	28

The total information-seeking units requested by participants ranged from 28 to 7 with the programme medians ranging from 18.5 to 16 units. The Kruskal-Wallis test indicated no difference between the three programmes of preparation for this subsection.

4.1.i.b Focus of Initial Information-Seeking

Table 11 Programme of Preparation by Focus of Initial Information-Seeking

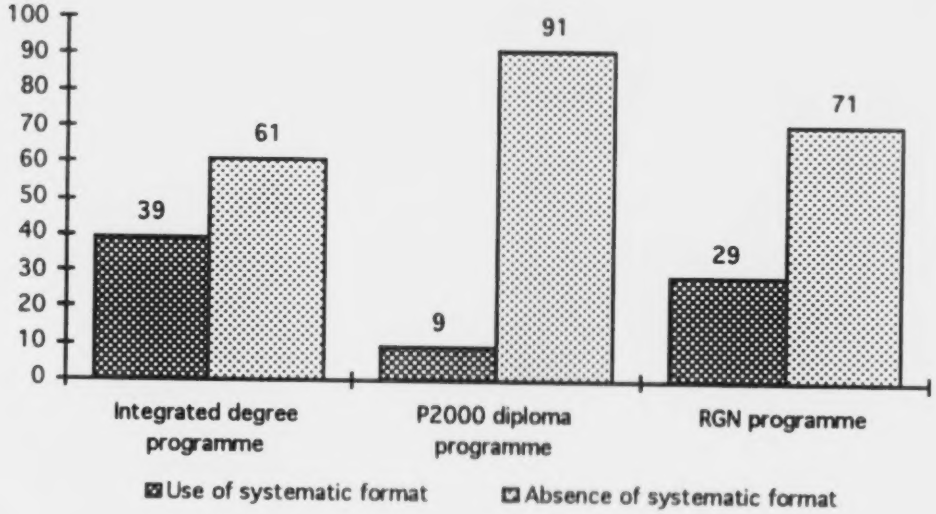
Programme of Preparation	Biographical	Reason for Admission	Past Medical History	Social History	Physical	Functional	Type of Admission	Immediate Health Needs	Sample Total
Integrated degree programme	7 23%	12 39%	5 16%	3 10%	2 6%	1 3%	1 3%	0 0%	31 100%
P2000 diploma programme	18 53%	6 18%	4 12%	2 6%	2 6%	1 3%	1 3%	0 0%	34 100%
RGN programme	12 35%	10 29%	2 6%	5 15%	2 6%	2 6%	0 0%	1 3%	34 100%
Sample Total	37 37%	28 28%	11 11%	10 10%	6 6%	4 4%	2 2%	1 1%	99 100%

The approach to information-seeking was initially analysed in terms of primary focus of information sought. The most frequently cited initial information sought by participants representing the three programmes of preparation was biographical data (37%) followed by reason for-admission (28%). Since several cells presented expected values of less than five, for the Chi-square analysis, categories were grouped in the following way: functional and physical data; type of and reason for admission; and past medical history with social history and immediate health needs. Overall the Chi-square test revealed no difference between the programmes of preparation for this subsection

4.1.i.c Use of Systematic Format

A systematic format was demonstrated by only a quarter of the sample. Over a third (39%, n=12) of integrated degree programme and 29% (n=10) of RGN programme participants, in comparison to 9% (n=3) of P2000 diploma programme participants, adopted this approach which was characterised by the sequential/logical ordering of data requests.

Figure 7 Programme of Preparation by Use of Systematic Format- %

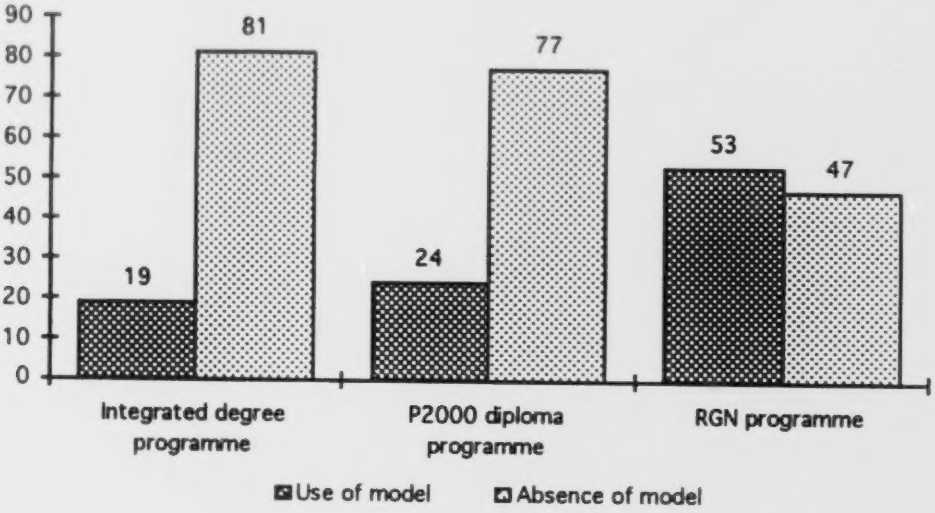


The Chi-square test revealed a significant difference between the programmes of preparation for this subsection (X^2 =8.148. 2df. p<0.03) with more participants from the integrated degree programme requesting information in a systematic manner as compared with P2000 diploma programme participants. The RGN programme lay between the integrated degree and P2000 diploma programmes.

4.1.i.d Use of a Model

Just under a third of the sample (n=32) referred to the use of a model when information-seeking.

Figure 8 Programme of Preparation by Use of a Model- %

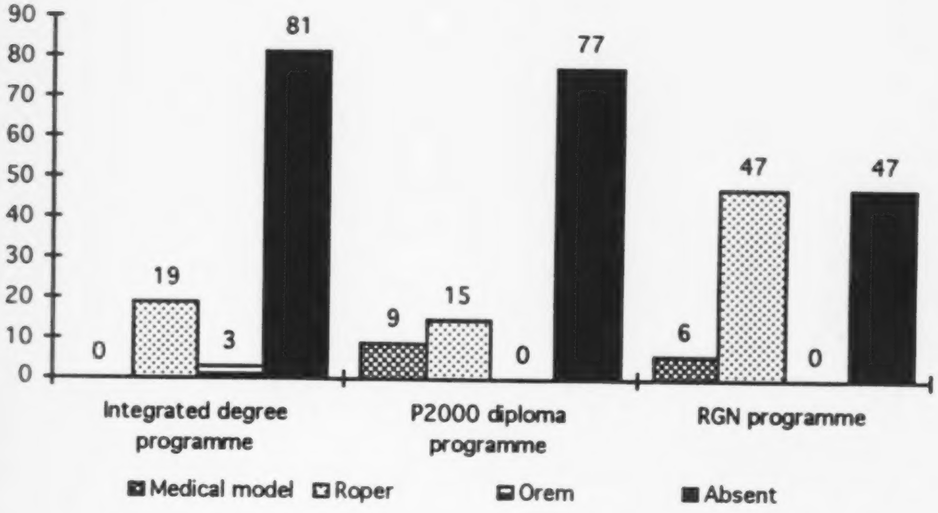


The Chi-square test revealed a significant difference between the programmes of preparation for this subsection (X^2 =10.192. 2df. p<0.01) with more participants from the RGN programme referring to the use of a model when information-seeking as compared with participants from the integrated degree programme and P2000 diploma programme.

4.1.i.e Type of Model

Of those referring to the use of a model (n=32), the most favoured was Roper et al's (1990) activities of living model. One participant from the integrated degree programme made references to two models, Orem's (1985) self care model and Roper et al's (1990) activities of living model.

Figure 9 Programme of Preparation by Type of Model- %



Reference to Orem's self-care model was excluded from the Chi-square analysis since it was cited by only one participant. A significant difference emerged between the programmes of preparation for this subsection (X^2 =13.427. 4df. $p<0.01$) with more participants from the RGN programme referring to the use of Roper et al's (1990) model when information-seeking as compared with participants from the P2000 diploma programme and integrated degree programme. However, in some cases the expected frequency was <5, thus the result may only be suggestive of a trend.

4.1.i.f Use of an Assessment Tool

Only six percent of the sample made reference to the use of an assessment tool when information-seeking. The six participants who did refer to the use of an assessment tool cited the Waterlow (1987) pressure sore risk assessment scale. No participants from the P2000 diploma programme referred to the use of an assessment tool with only four RGN programme participants and two integrated degree programme participants referring to a tool for assessment purposes.

4.1.i.g Evidence of a Multi-Focal Approach to Information-Seeking

Table 12 Programme of Preparation by Multifocal Approach

Programme of Preparation	**Total Using a Multifocal Approach**	**Absent**	**Sample Total**
Integrated degree programme	17 55%	14 45%	31 100%
P2000 diploma programme	20 59%	14 41%	34 100%
RGN programme	16 47%	18 53%	34 100%
Sample Total	53 54%	46 46%	99 100%

Just over half of the sample (54%) displayed a multifocal approach when information-seeking. There was no difference between the programmes of preparation for this subsection.

4.1.i.h Total Number of Occasions Rationale Cited

The underlying rationale for data requests was cited infrequently by participants. The total number of occasions a rationale was cited ranged from 27 to 0 with the medians ranging from 14 to 9. No difference emerged between the three programmes of preparation for this subsection.

4.2. Categories of Information Requests

4.2.i Personal and Medical History Data

4.2.i.a Personal History Data

The total information-seeking units for personal history data requested by the three programmes of preparation ranged from 5 to 0, with P2000 diploma participants requesting the largest number of information units and integrated degree programme participants requesting the lowest. Programme medians ranged from 3 to 1 units. The Kruskal-Wallis test revealed a significant difference between the three programmes of preparation for this subsection (H =7.85. 2df. p=0.02). On further examination, a significant difference was confirmed between the integrated degree programme and P2000 diploma programme using the Mann-Whitney U test (W= 819.5. p=0.01). No further differences were found.

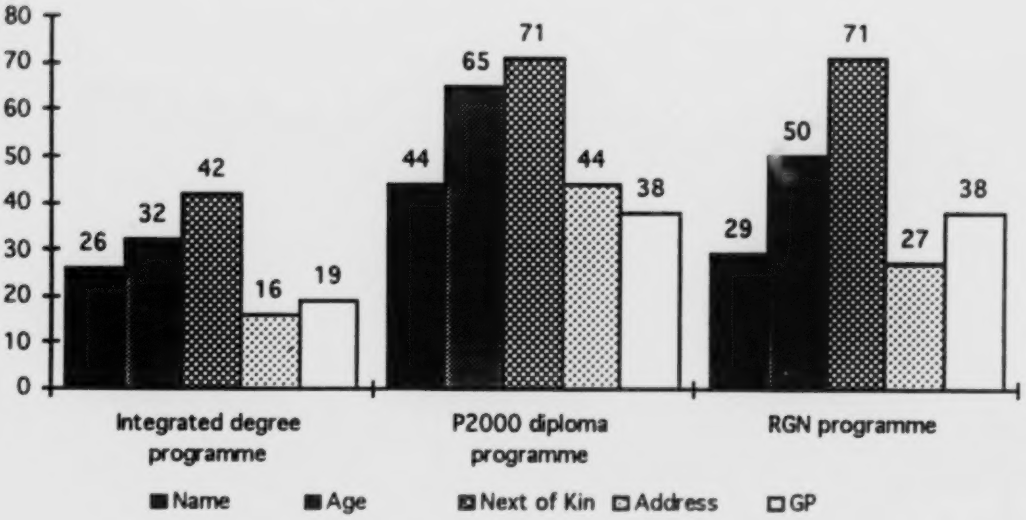
Personal history data encompassed five categories of information: name, age, next of kin, address, and GP details. Further differences were confirmed when combined categories were examined.

Table 13 Programme of Preparation by Personal History Data

Programme of preparation	**Next of Kin**	**Age**	**Name**	**GP**	**Address**
Integrated degree programme (n=31)	13 42%	10 32%	8 26%	6 19%	5 16%
P2000 diploma programme (n=34)	24 71%	22 65%	15 44%	13 38%	15 44%
RGN programme (n=34)	24 71%	18 50%	10 29%	13 38%	9 27%
Sample Total (n=99)	61 62%	50 51%	33 33%	32 32%	29 29%

The most frequently requested personal history data was next of kin (62%), followed by age (51%). There was a significant difference between programmes of preparation regarding age (X^2 =6.953. 2df. $p<0.05$) with more participants from the P2000 diploma programme requesting this information as compared with the integrated degree programme participants.

Figure 10 Programme of Preparation by Personal History Data - %



There was also a significant difference regarding next of kin (X^2 =7.391. 2df. p<0.03) with more participants from the P2000 diploma programme and the RGN programme requesting this data as compared with integrated degree participants. A further significant difference emerged regarding address (X^2 =6.332. 2df. p<0.05) with more participants from the P2000 diploma programme requesting this data compared to integrated degree programme participants.

4.2.i.b Medical History Data

The total information-seeking units for medical history data requested by the three programmes of preparation ranged from 102 to 85, with P2000 diploma participants again requesting the largest number of information units and the integrated degree programme participants the lowest. Programme medians ranged from 3 to 2.5 units.

Medical history data encompassed six categories of information: present medical history, past medical history, previous admissions, drugs, allergies and details of consultant.

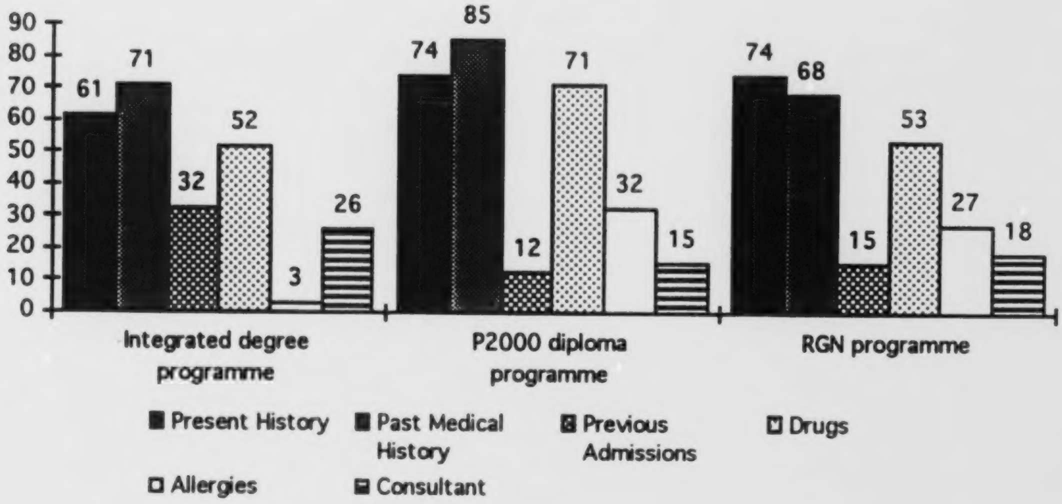
Table 14 Programme of Preparation by Medical History Data

Programme of Preparation	**Present History**	**Past Medical History**	**Drugs**	**Allergies**	**Previous Admissions**	**Consultant**
Integrated degree programme (n=31)	19 61% (R) 9 29% (A)	22 71% (R)	16 52% (R)	1 3% (R)	10 32% (R)	8 26% (R)
P2000 diploma programme (n=34)	25 74% (R) 4 12% (A)	29 85% (R)	24 71% (R)	11 32% (R)	4 12% (R)	5 15% (R)
RGN programme (n=34)	25 74% (R) 3 9% (A)	23 68% (R)	18 53% (R)	9 27% (R)	5 15% (R)	6 18% (R)
Sample Total (n=99)	85 86%	74 75%	58 59%	21 21%	19 19%	19 19%

(R) = Reference to only (A) = Detailed assessment data requested

The most frequently requested information by participants regarding the client's medical history related to present medical history (86%), with 16% requesting assessment details. Three quarters of the programme participants (75%) also requested past medical history data and more than half requested drugs information (59%). Information regarding patient allergies, previous admissions and consultant were requested by approximately one fifth of the total sample.

Figure 11 Programme of Preparation by Medical History Data- %



While not statistically significant, a trend emerged regarding previous admission details ($X^2 = 5.063$. 2df. $p>0.05$) with more participants from the integrated degree programme requesting this information as compared with participants from the RGN programme. Conversely, regarding present history data ($X^2 = 0.862$. 2df. $p>0.05$) participants from the integrated degree programmes requested this information less frequently than participants from the P2000 diploma programme and RGN programme. A significant difference emerged regarding allergies ($X^2 = 9.088$. 2df. $p<0.03$) with more participants from the P2000 diploma programme requesting this information compared to participants from the integrated degree programme.

4.2.i.c Total Information-Seeking Units for Personal and Medical History Data

The total information-seeking units for personal and medical history data requested by participants ranged from 10 to 0. The Kruskal-Wallis test indicated a significant difference between the three programmes of preparation for this subsection (*H* =6.51. 2df. p=0.04). On further examination, a significant difference was confirmed between the integrated degree programme and P2000 diploma programme (W= 828.0. p=0.01) using the Mann-Whitney U test, with P2000 diploma participants requesting more personal and medical history data. No further differences emerged.

4.2.ii Physical Domain

4.2.ii.a Total Information-Seeking Units: Physical Domain

The total information-seeking units requested by participants for the physical domain ranged from 13 to 0 with a median range of 6 to 5. No difference emerged between the three programmes of preparation for this subsection.

4.2.ii.b Physical Assessment Data

Over twenty seven percent of the sample made a general request for physical health assessment data with six percent requesting assessment details. No difference emerged between the programmes of preparation for physical assessment data requests.

4.2.ii.c Cardiovascular Data

Only a quarter of the total sample requested information regarding the client's cardiovascular status, with twelve percent requesting assessment details. No difference emerged between the three programmes of preparation for cardiovascular data requests.

4.2.ii.d Respiratory Data

Table 15 Programme of Preparation by Respiratory Data

Programme of Preparation	**Reference to**	**Assessment Details**	**Total Requesting Respiratory Data**	**Total Not Requesting Data**	**Sample Total**
Integrated degree programme	9 29%	7 22%	16 52%	15 48%	31 100%
P2000 diploma programme	8 24%	4 12%	12 35%	22 65%	34 100%
RGN programme	10 29%	12 35%	22 65%	12 35%	34 100%
Sample Total	27 27%	23 23%	50 51%	49 49%	99 100%

Over half of the sample requested information regarding the client's respiratory status, with just over one fifth requesting assessment details. For the Chi-square analysis the categories reference to and assessment details were combined. A trend emerged for this subsection with more participants from the RGN programme (65%, n=22) and integrated degree programme (52%, n=16) requesting this data as compared with P2000 diploma participants (35%, n=12).

4.2.ii.e Thermoregulatory Data

Only thirty percent of the sample (n=30) requested information regarding the client's temperature. A trend emerged for this subsection with more participants from the RGN programme (44%, n=15) requesting this information as compared with P2000 diploma programme (18%, n=6) and integrated degree programme participants (29%, n=9).

4.2.ii.f Neurological Data

No programme of preparation requested information related to the client's neurological status.

4.2.ii.g Pain/Discomfort Data

Table 16 Programme of Preparation by Pain/Discomfort Data

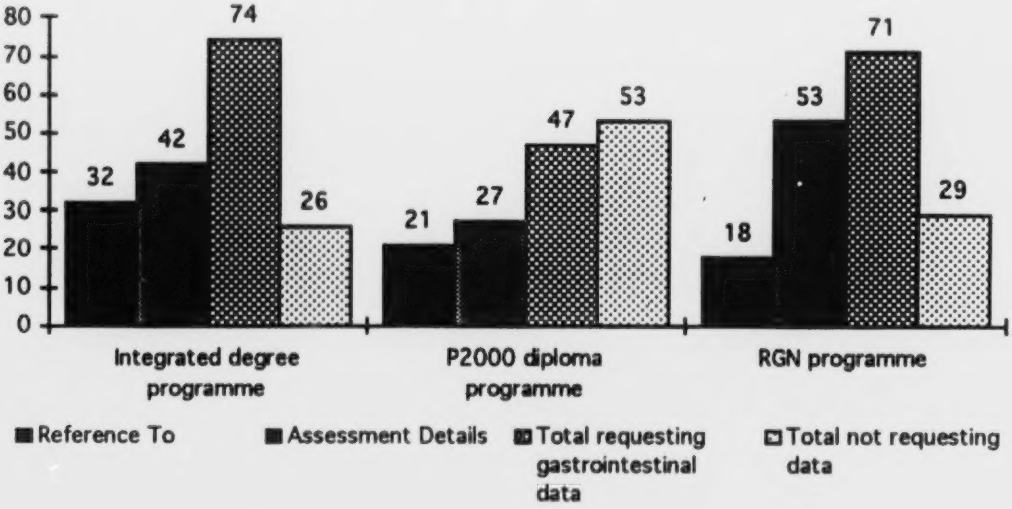
Programme of Preparation	**Reference to**	**Assessment Details**	**Total Requesting Pain/Discomfort Data**	**Total Not Requesting Data**	**Sample Total**
Integrated degree programme	7 23%	3 10%	10 32%	21 68%	n=31 100%
P2000 diploma programme	4 12%	1 3%	5 15%	29 85%	n=34 100%
RGN programme	5 15%	1 3%	6 18%	28 82%	n=34 100%
Sample Total	21 21%	5 5%	26 26%	73 74%	n=99 100%

Only twenty six percent of the sample requested information regarding pain/discomfort and there was no difference between the programmes of preparation.

4.2.ii.h Gastrointestinal Data

A majority of the sample (64%) requested information regarding the client's gastrointestinal status, with forty percent requesting assessment details.

Figure 12 Programme of Preparation by Gastrointestinal Data - %



For the Chi-square analysis the categories reference to and assessment details were combined. A significant difference emerged between the programmes of preparation for this subsection (X^2 =6.241. 2df. $p<0.05$) with more integrated degree programme (74%, n=23) and RGN programme (71%, n=24) participants requesting this information as compared with the P2000 diploma programme participants (47%, n=16).

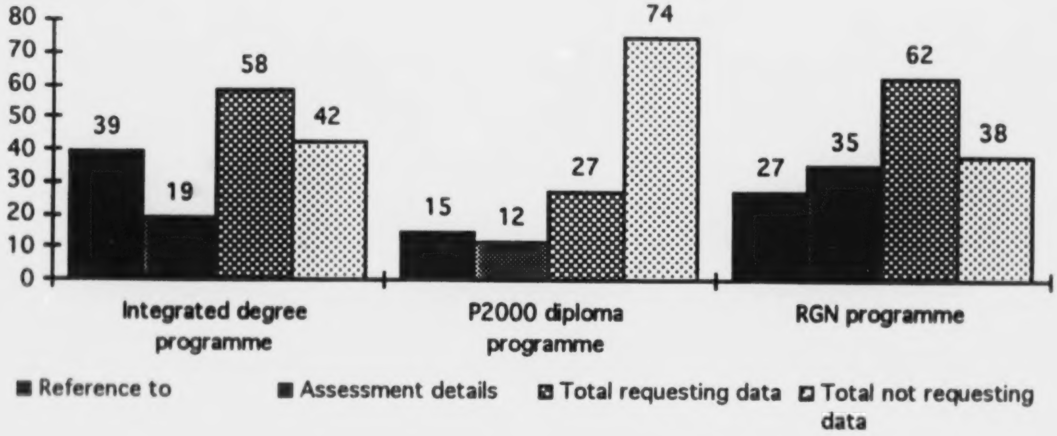
4.2.ii.i Weight Data

Less than one fifth (17%, n=17) of the sample requested information regarding the client's weight and no difference emerged between the programmes of preparation.

4.2.ii.j Urological Data

Forty nine percent of the sample requested information regarding the client's urological status, with twenty two percent requesting assessment details.

Figure 13 Programme of Preparation by Urological Data - %



For the Chi-square analysis the categories reference to and assessment details were combined. A significant difference emerged between the programmes of preparation in this subsection ($X^2 = 10.137$. 2df. $p<0.01$) with more participants from the RGN programme (62%, n=21) requesting this information as compared with the P2000 diploma programme participants (27%, n=9).

4.2.ii.k Musculoskeletal Data

Table 17 Programme of Preparation by Musculoskeletal Data

Programme of Preparation	**Reference to**	**Assessment Details**	**Total Requesting Musculoskeletal Data**	**Total Not Requesting Data**	**Sample Total**
Integrated degree programme	11 35%	9 29%	20 65%	11 35%	n=31 100%
P2000 diploma programme	10 29%	11 32%	21 62%	13 38%	n=34 100%
RGN programme	7 21%	19 56%	26 76%	8 24%	n=34 100%
Sample Total	28 28%	39 39%	67 68%	32 32%	n=99 100%

A majority of the sample (68%) requested information regarding the client's musculoskeletal status, with thirty nine percent requesting assessment details. No difference emerged between the programmes of preparation for this subsection.

4.2.ii.l Functional Ability Data

A majority of the sample (62%, n=61) requested information regarding functional ability, with forty two percent requesting assessment details, however, there was no difference between the programmes of preparation for this subsection.

4.2.ii.m Independence/Dependence Data

Only twenty eight percent of participants requested information regarding the client's level of independence/dependence, with six percent requesting assessment details. There was no difference between the programmes of preparation for this subsection.

4.2.ii.n Skin Integrity Data

Table 18 Programme of Preparation by Skin Integrity Data

Programme of Preparation	**Reference to**	**Assessment Details**	**Total Requesting Skin Integrity Data**	**Total Not Requesting Data**	**Sample Total**
Integrated degree programme	1 3%	9 29%	10 32%	21 68%	n=31 100%
P2000 diploma programme	2 6%	10 29%	12 35%	22 65%	n=34 100%
RGN programme	2 5.6%	17 50%	19 56%	15 44%	n=34 100%
Sample Total	5 5%	36 36%	41 41%	58 59	n=99 100%

Just over two fifths of the sample requested information regarding skin integrity, with most requests at the assessment level. There was no difference between the programmes of preparation for this subsection.

4.2.ii.o Vision Data

Table 19 Programme of Preparation by Vision Data

Programme of Preparation	**Total Requesting Vision Data**	**Total Not Requesting Data**	**Sample Total**
Integrated degree programme	5 16%	26 84%	31 100%
P2000 diploma programme	14 41%	20 59%	34 100%
RGN programme	6 18%	28 82%	34 100%
Sample Total	25 25%	74 75%	99 100%

A quarter of the sample requested information regarding the client's visual acuity. Chi-square analysis yielded a significant difference between the programmes of preparation for this subsection (X^2 =6.976. 2df. $p<0.05$) with more participants from the P2000 diploma programme (41%, n=14) requesting this data compared with the integrated degree programme (16%, n=5) and RGN programme participants (18%, n=6).

4.2.ii.p Hearing Data

Table 20 Programme of Preparation by Hearing Data

Programme of Preparation	**Total Requesting Hearing Data**	**Total Not Requesting Data**	**Sample Total**
Integrated degree programme	6 19%	25 81%	31 100%
P2000 diploma programme	14 41%	20 59%	34 100%
RGN programme	6 18%	28 82%	34 100%
Sample Total	26 26%	73 74%	99 100%

Similar to vision data requests, only twenty six percent of the sample requested information regarding the client's auditory status. A trend emerged for this subsection with more participants from the P2000 diploma programme (41%, n=14) requesting this information as compared with the RGN (18%, n=6) and integrated degree programme participants (19%, n=6).

4.2.ii.q Rest and Sleep Data

Table 21 Programme of Preparation by Rest and Sleep Data

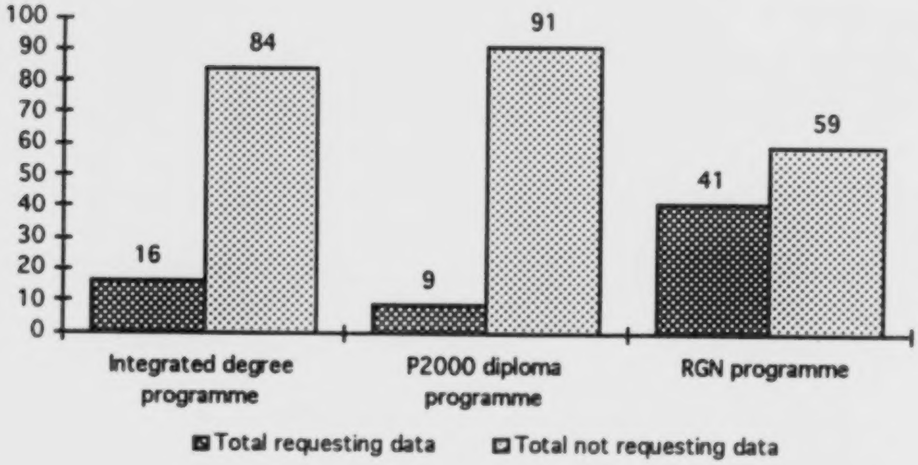
Programme of Preparation	Reference to	Assessment Details	Total Requesting Rest and Sleep Data	Total Not Requesting Data	Sample Total
Integrated degree programme	4 13%	4 13%	8 26%	23 74%	31 100%
P2000 diploma programme	4 12%	3 9%	7 21%	27 79%	34 100%
RGN programme	3 9%	12 35%	15 44%	19 56%	34 100%
Sample Total	11 11%	19 19%	30 30%	69 70%	99 100%

Thirty percent of the sample requested information regarding the client's rest and sleep pattern, with nineteen percent requesting assessment details. For the Chi-square analysis the categories reference to and assessment details were combined. A trend emerged for this subsection, with more participants from the RGN programme (44%, n=15) requesting this information as compared with participants from the P2000 diploma (21%, n=7) and integrated degree programmes (26%, n=8).

4.2.ii.r Immediate Nurse's Role Data

Less than a quarter of the sample (22%, n=22) requested information regarding the immediate role of the nurse. Chi-square analysis yielded a significant difference between the programmes of preparation (X^2 =11.265. 2df. $p<0.01$), with more participants from the RGN programme (41%, n=14) requesting this information as compared to the P2000 diploma (9%, n=3) and integrated degree programme participants (16%, n=5).

Figure 14 Programme of Preparation by Immediate Nurse's Role Data - %



4.2.ii.s Immediate Medical Role Data

Table 22 Programme of Preparation by Immediate Medical Role Data

Programme of Preparation	**Total Requesting Medical Role Data**	**Total Not Requesting Data**	**Sample Total**
Integrated degree programme	8 26%	23 74%	31 100%
P2000 diploma programme	2 6%	32 94%	34 100%
RGN programme	6 18%	28 82%	34 100%
Sample Total	16 16%	83 84%	99 100%

Less than one fifth of the sample (16%, n=16) requested information regarding immediate medical role. A trend emerged for this subsection with more participants from the integrated degree (26%, n=8) and RGN programmes (18%, n=6) requesting this information compared with participants from the P2000 diploma programme (6%, n=2).

4.2.iii Psychological Domain

4.2.iii.a Total Information-Seeking Units: Psychosocial Domain

The psychological and social domains were combined in order to examine the total information-seeking units requested by participants from the three programmes. The total information- seeking units requested by participants for the psychosocial domain ranged from 12 to 0 with a median range of 7 to 5. No difference emerged between the three programmes of preparation for this subsection using the Kruskal-Wallis test.

4.2.iii.b Psychological Assessment Data

Just over two fifths of the sample (n=41) requested information regarding the client's psychological health status, with nineteen percent requesting assessment details. There was no difference between the programmes of preparation for psychological assessment data according to the Chi-square test.

4.2.iii.c Cognitive Function Data

Nearly two fifths of the sample (n=39) requested information regarding cognitive function, with twenty eight percent requesting assessment details. The Chi-square test revealed no difference between the programmes of preparation for this subsection.

4.2.iii.d Response to Illness and Hospitalisation Data

Table 23 Programme of Preparation by Response to Illness and Hospitalisation Data

Programme of Preparation	Reference to	Assessment Details	Total Requesting Illness and Hospitalisation Data	Total Not Requesting Data	Sample Total
Integrated degree programme	18 58%	1 3%	19 61%	12 39%	31 100%
P2000 diploma programme	14 41%	0 0%	14 41%	20 59%	34 100%
RGN programme	12 35%	0 0%	12 35%	22 65%	34 100%
Sample Total	44 44%	1 1%	45 45%	54 55%	99 100%

Less than half (45%) of the sample requested information regarding the client's response to illness and hospitalisation and only one percent requested assessment details. A trend emerged for this subsection with more participants from the integrated degree programme (61%, n=19) requesting this information as compared with participants from the P2000 diploma programme (41%, n=14) and RGN programme (35%, n=12).

4.2.iii.e Anxiety Data

Just over a tenth of the sample (n=11) requested information regarding the client's level of anxiety. No difference emerged between the programmes of preparation for this subsection.

4.2.iii.f Communication Needs Data

Table 24 Programme of Preparation by Communication Needs Data

Programme of Preparation	**Reference to**	**Assessment Details**	**Total Requesting Communication Needs Data**	**Total Not Requesting Data**	**Sample Total**
Integrated degree programme	4 13%	5 16%	9 29%	22 71%	31 100%
P2000 diploma programme	6 18%	5 15%	11 32%	23 68%	31 100%
RGN programme	6 18%	13 38%	19 56%	15 44%	34 100%
Sample Total	16 16%	23 23%	39 39%	60 61%	99 100%

Just under two fifths of the sample requested information regarding the client's communication needs, with just over one fifth requesting assessment details. A trend emerged for this subsection with more participants from the RGN programme (56%, n=19) requesting this information compared with participants from the integrated degree programme (29%, n=9) and P2000 diploma programme (32%, n=11).

4.2.iv Social Domain

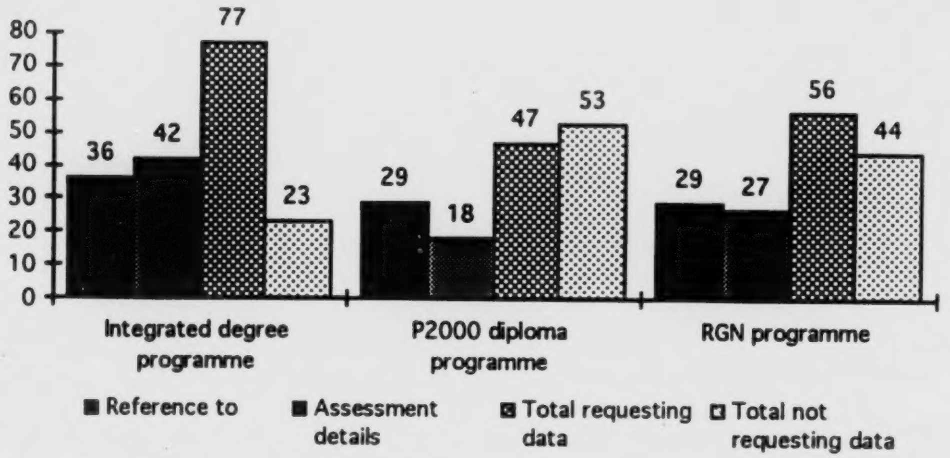
4.2.iv.a Social Assessment Data

A majority of participants (76%, n=75) requested information regarding the client's social situation. There was no difference between the programmes of preparation for this subsection according to the Chi-square test.

4.2.iv.b Family/Significant Others Data

Three fifths of the sample (60%) requested information regarding the role of family/significant others, with over a quarter (28%) requesting assessment details. For the Chi-square analysis the categories reference to and assessment details were combined. A significant difference emerged between the programmes of preparation for this subsection (X^2 =6.504. 2df. $p<0.05$) with more participants from the integrated degree programme (77%, n=24) requesting this information as compared with participants from the P2000 diploma programme (47%, n=16) and RGN programme (56%, n=19).

Figure 15 Programme of Preparation by the Role of the Family/Significant Others Data - %



4.2.iv.c Dependents Data

Few of the sample (17%, n=19) requested information regarding dependents and the Chi-square test revealed no difference between the programmes of preparation for this subsection.

4.2.iv.d Pets Data

Sixteen percent of the sample (n=16) requested information regarding pets. There was no difference between the programmes of preparation for this subsection according to the Chi-square test.

4.2.iv.e Accommodation Data

Only thirty seven percent of the sample (n=37) requested information regarding accommodation, with thirteen percent requesting assessment details. The Chi-square test yielded no difference between the programmes of preparation for this subsection.

4.2.iv.f Meals on Wheels Services Data

Fifty four percent of the sample requested information regarding the use of the meals on wheels service. No difference emerged between the programmes of preparation for this subsection.

4.2.iv.g Home Help Services Data

Just over half of the total sample (53%, n=52) requested information regarding the use of home help services. No difference emerged between the programmes of preparation for this subsection.

4.2.iv.h District Nurse Services Data

Only twenty seven percent of the sample requested information regarding the use of district nurse services. No difference emerged between the programmes of preparation for this subsection.

4.2.iv.i Other Services Data

Eleven percent of the sample requested information regarding the use of other services. No difference emerged between the programmes of preparation for this subsection.

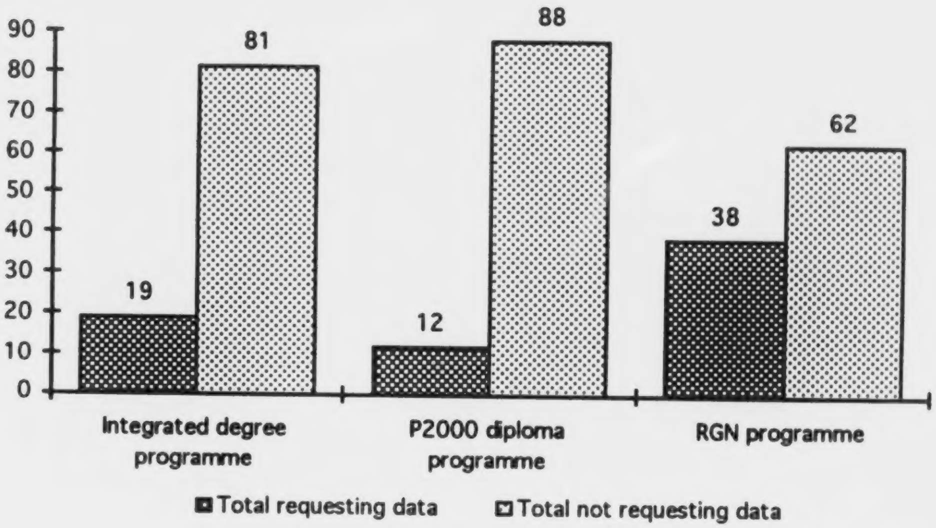
4.2.iv.j Discharge Planning Data

Just over half of the sample (54%) requested information related to discharge planning. No difference emerged between the programmes of preparation for this subsection.

4.2.iv.k Occupational Status Data

One fifth (23%) of the sample requested information regarding the client's occupational status.

Figure 16 Programme of Preparation by Occupational Status Data - %



The Chi-square test revealed a significant difference between the programmes of preparation for this subsection (X^2 =7.059. 2df. $p<0.05$). More participants from the RGN programme (38%, n=13) requested this information as compared with participants from the P2000 diploma programme (12%, n=14) and integrated degree programme (19%, n=6).

4.2.iv.1 Recreational Interests Data

Table 25 Programme of Preparation by Recreational Interests Data

Programme of Preparation	**Total Requesting Recreational Interests Data**	**Total Not Requesting Data**	**Sample Total**
Integrated degree programme	6 19%	25 81%	31 100%
P2000 diploma programme	4 12%	30 88%	34 100%
RGN programme	12 35%	22 65%	34 100%
Sample Total	22 22%	77 78%	99 100%

Just over a fifth (22%) of the sample requested information regarding the client's recreational interests. A trend emerged for this subsection using the Chi-square test with more participants from the RGN programme (35%, n=12) requesting this information as compared with participants from the P2000 diploma programme (12%, n=4).

4.2.iv.m Spiritual Needs Data

Table 26 Programme of Preparation by Spiritual Needs Data

Programme of Preparation	**Reference to**	**Assessment Details**	**Total Requesting Spiritual Needs Data**	**Total Not Requesting Data**	**Sample Total**
Integrated degree programme	6 19%	1 3%	7 23%	24 77%	31 100%
P2000 diploma programme	12 35%	3 9%	15 44%	19 56%	34 100%
RGN programme	4 12%	4 12%	8 24%	26 76%	34 100%
Sample Total	22 22%	8 8%	30 30%	69 70%	99 100%

Less than a third of the sample requested information regarding the client's spiritual needs, eight of whom requested assessment details. Using the Chi-square test a trend emerged for this subsection with more participants from the P2000 diploma programme (44%, n=15) requesting this information as compared with integrated degree (23%, n=7) and RGN participants (24%, n=8).

4.3. Highest Educational Qualification on Entry to Programme of Preparation

4.3.i Information-Seeking Strategies

4.3.i.a Total Information-Seeking Units

The total information-seeking units requested by participants according to highest educational qualification ranged from 28 to 7 with a median range of 18 to 17. The Kruskal-Wallis test revealed no difference between highest educational qualification and the total number of information-seeking units requested.

4.3.i.b Use of Systematic Format

Just over a quarter of participants from each group displayed a systematic format when information-seeking. No difference emerged between the highest level of educational qualification for this subsection using the Chi-square test.

4.3.i.c Total Number of Occasions Rationale Cited

The total number of occasions a rationale was cited when information-seeking ranged from 27 to 0 with a median range of 12 to 11. The Kruskal-Wallis test yielded no difference between highest educational qualification and the total number of occasions a rationale was cited.

4.3.i.d Total Information-Seeking Units: Physical Domain

The total number of information-seeking units for the physical domain requested by each group ranged from 13 to 0 with a median range of 6 to 5. There was no difference between highest educational qualification and the total physical domain data requested using the Kruskal-Wallis test.

4.3.i.e Total Information-Seeking Units: Psychosocial Domain

The total number of information-seeking units for the psychosocial domain requested by each group ranged from 4 to 0 with a median of 2. There was no difference between highest educational qualification and total psychosocial data requested according to the Kruskal-Wallis test.

4.4. Centre

Centre data were explored to assess whether any centres biased the programmes of preparation.

4.4.i. Information-Seeking Strategies

4.4.i.a Total Information-Seeking Units

Table 27 Centre by Total Number of Information-Seeking Units

Centre	Median No Units Requested	Minimum No Units Requested	Maximum No Units Requested
A	18	12	28
C	20	11	23
D	17	8	28
B	16	10	23
E	16	7	22
I	19	16	27
F	17	8	24
G	18.5	10	27
H	18	10	24

The total number of information-seeking units for each centre ranged from 28 to 7 with a median range of 20 to 16. No difference between the nine centres emerged using the Kruskal-Wallis test.

4.4.i.b Use of Systematic Format

Table 28 Centre by Use of Systematic Format

Centre	**Total Requesting Data Using Systematic Format**	**Absent**	**Sample Total**
A	4 (31%)	9 (69%)	13 100%
C	4 (40%)	6 (60%)	10 100%
D	2 (18%)	9 (82%)	11 100%
B	3 (23%)	10 (77%)	13 100%
E	0 0%	10 (100%)	10 100%
I	0 (0%)	11 (100%)	11 100%
F	2 (22%)	7 (78%)	9 100%
G	7 (58%)	5 (42%)	12 100%
H	3 (30%)	7 (70%)	10 100%

For all centres representing the P2000 diploma and RGN programmes the majority of participants did not display a systematic format when information-seeking. This was also the case for the majority of participants from two of the centres representing the integrated degree programme; 58% of participants from centre G did, however, use a systematic format. The Chi-square test yielded no difference between centres.

4.4.i.c Use of a Model

Table 29 Centre by Use of a Model

Centre	Total Using a Model	Absent	Sample Total
A	6 (46%)	7 (54%)	13 100%
C	6 (60%)	4 (40%)	10 100%
D	6 (55%)	5 (45%)	11 100%
B	3 (23%)	10 (77%)	13 100%
E	4 (40%)	6 (60%)	10 100%
I	1 (9%)	10 (91%)	11 100%
F	3 (33%)	6 (67%)	9 100%
G	1 (8%)	11 (92%)	12 100%
H	2 (20%)	8 (80%)	10 100%

The majority of participants from centre C (60%, n=6) and centre D (55%, n=6), both of which represented the RGN programme, utilised a model when information-seeking. There were no differences, however, between centres representing each programme and the use of a model when information-seeking according to the Chi-square test.

4.4.i.d Total Number of Occasions Rationale Cited

Table 30 Centre by Total Number of Occasions Rationale Cited

Centre	Median No. Occasions Rationale Cited	Minimum No. Occasions Rationale Cited	Maximum No. Occasions Rationale Cited
A	15	4	22
C	8.5	0	17
D	12	3	21
B	12	5	21
E	6.5	0	20
I	7	0	17
F	13	7	21
G	15	3	27
H	12	1	23

The total number of occasions a rationale was cited by participants from the 9 centres ranged from 27 to 0 with a median range of 15 to 6.5. The Kruskal-Wallis test was used to examine the relationship between centres of each programme and the total number of information-seeking units requested and a significant difference between the nine centres was confirmed (*H* = 15.72. 8df. p=0.05). There were differences between centres A and C both of which represented the RGN programme of preparation and centres B and E, which represented the P2000 diploma programme.

4.4.i.e Focus of Initial Information-Seeking

For all centres the most frequently cited initial focus when information-seeking was biographical data and reason for admission.

4.4.i.f Immediate Nurse's Role Data

Table 31 Centre by Immediate Nurse's Role Data

Centre	**Total Requesting Nurses Role Information**	**Total Not Requesting Data**	**Sample Total**
A	6 (46%)	7 (54%)	13 100%
C	3 (30%)	7 (70%)	10 100%
D	5 (45%)	6 (55%)	11 100%
B	1 (8%)	12 (92%)	13 100%
E	1 (10%)	9 (90%)	10 100%
I	1 (9%)	10 (91%)	11 100%
F	1 (11%)	8 (89%)	9 100%
G	2 (17%)	10 (83%)	12 100%
H	2 (20%)	8 (80%)	10 100%

A majority of participants from all centres did not request information regarding the immediate nurse's role and no difference between centres emerged using the Chi-square test.

4.4.i.g Immediate Medical Role Data

Table 32 Centre by Immediate Medical Role Data

Centre	Total Requesting Medical Role Information	Total Not Requesting Data	Sample Total
A	6 (46%)	7 (54%)	13 100%
C	0 (0%)	10 (100%)	10 100%
D	0 (0%)	11 (100%)	11 100%
B	1 (8%)	12 (92%)	13 100%
E	0 (0%)	10 (100%)	10 100%
I	1 (9%)	10 (91%)	11 100%
F	0 (0%)	9 (100%)	9 100%
G	6 (50%)	6 (50%)	12 100%
H	2 (20%)	8 (80%)	10 100%

The majority of participants from all centres did not request information regarding the immediate medical role and further statistical testing was not possible.

4.4.i.h Total Information-Seeking Units: Physical Domain

The total number of information-seeking units requested for the physical domain by each centre ranged from 13 to 0 with a median range of 8.5 to 4. The Kruskal-Wallis test revealed no differences between centres and the total number of information-seeking units for the physical domain.

4.4.i.i Total Information-Seeking Units: Psychosocial Domain

The total number of information-seeking units requested for the psychosocial domain by each centre ranged from 12 to 0 with a median range of 8 to 4. The Kruskal-Wallis test revealed no differences between centres and the total number of information-seeking units for the psychosocial domain.

4.5 Summary of Findings: Simulation A (Information-Seeking)

There was a large range in the number of information-seeking units requested by the study participants, with few participants adopting a systematic approach and just over half adopting a multifocal approach. Few participants made reference to issues of dependence/ independence and just over half requested information related to discharge planning. Participants made similar data requests in relation to the social domain.

While there were similarities in many of the data requests, a number of programme characteristics were noted. More integrated degree programme participants adopted a systematic format to their data requests and particularly requested data regarding the role of the family and significant others in the life of a client. Like the RGN programme participants, the integrated degree programme participants requested a substantial amount of physical health data.

More RGN programme participants used a model to guide their data requests with Roper et al's (1990) activities of living model being the most popular. There were also more data requests regarding the immediate nurse's role from the RGN programme participants. More P2000 diploma participants focused upon biographical data requests initially and this feature was repeated in terms of personal history data, with P2000 diploma participants making more requests for the client's age, next of kin and address compared to the integrated degree programme participants. The P2000 diploma participants also made more requests for vision and hearing data.

There was no relationship between highest educational qualification and information-seeking behaviour. Few differences emerged between centre data. Differences focused upon the number of occasions a rationale was cited for a data request in RGN centres A and C and P2000 diploma programme centres B and E. Furthermore, data requests related to immediate medical role were also significantly different between RGN programme centres A and C, A and D, and centres F and G of the integrated degree programme.

4.6 Discussion: Simulation A (Information-Seeking)

The importance of information-seeking is such that without the gathering of sufficient data a nurse cannot develop an effective plan of care for his/her clients. Furthermore, data acquisition forms the first critical phase of the nursing process (Kratz, 1979; La Monica, 1979; George, 1980; Griffith & Christensen, 1982; Tanner et al, 1987) and the UKCC (1992b) has emphasised that registered nurses remain accountable for assessment of patient needs.

The complexity of the information-seeking process is well documented (Hammond et al, 1966; McCarthy, 1981), however, there is limited literature regarding the most efficient strategies for effective information-seeking (Marshall, 1977). Hammond et al (1966) highlight the variability of strategy components and performance by nurses across cases when information-seeking, that is, nurses many vary their strategies in different situations. Other studies suggest that experienced/knowledgeable nurses are more focused and systematic in data acquisition than less experienced/knowledgeable subjects (Kleinmuntz, 1966; Neufield et al, 1981).

A large range of data was requested by participants in this study. A minority of participants, however, utilised a systematic format when information-seeking, with more integrated degree programme participants adopting such an approach as compared with P2000 diploma programme participants and with the RGN programme participants falling between. Such findings suggest that a systematic approach to data acquisition may not always be successfully fostered by nurse education programmes. Equally, only half of the study participants adopted a multi-focal approach to their information-seeking which is not consistent with a holistic approach to assessment. (Henderson, 1966; McFarlane, 1976; UKCC 1986, 1992a) and again suggests that such an approach is not always effectively developed by nurse education curricula. Related to a holistic approach to client assessment, the infrequent request for data pertaining to the client's spiritual needs was also noteworthy although it is interesting to note that P2000 diploma participants made more requests for such data. This general neglect of spiritual needs has been noted by others (McGilloway & Donnelly, 1977; Sodestrom & Martinson, 1987). The Code of Professional Conduct (UKCC, 1992a) highlighted the requirement that all practitioners adopt a multifocal and client focus to their practice which unfortunately was not evident in the simulation data. There was considerable variability between individual participants ability to state a rationale for the information requested but there were no trends regarding the different programmes of preparation and it was not possible therefore to examine the knowledge base underpinning the requests for information.

Similar data requests were made by study participants in relation to the psychological and social domains. Given the format of the P2000 diploma programme, it is interesting to note how an increased focus on community/social issues did not emerge in terms of data requested. Equally, given the current emphasis upon the need for effective discharge planning it was disappointing to find that so few participants requested information in relation to this important area of care provision despite the evidence that discharge requires preparation and co-ordination if it is to be effective and meet the complex needs of older clients (Tierney et al, 1993 1994). Further, this finding might suggest that there is some delay in the use of current research evidence in the teaching material delivered to students. Alternatively, that students do not appreciate the full value of research as an underpinning to all aspects of nursing practice.

Only six participants referred to the use of an assessment tool when information-seeking and on each occasion reference was made to the use of the Waterlow (1987) pressure sore risk assessment scale. It would therefore appear that the use of assessment tools is still peripheral to data acquisition among student nurses completing their education. Few participants requested data relating to the client's level of dependence/independence which is indicative perhaps of a lack of focus upon proactive care of older clients in certain areas (Paillat 1976) and further a failure to adhere to clause 5 of the Code of Professional Conduct (UKCC, 1992a) which explicitly states that nurses should "foster (the) independence" of patients, clients and their families.

While there were a number of similarities between individual participants and programmes of preparation, certain specific differences did emerge. Regarding the use of a model, more participants of the RGN programme referred to the use of a model as compared with participants of both integrated and P2000 diploma programmes, with the most favoured model being Roper et al's (1990) activities of living model. McKenna (1994) also found a greater allegiance to models among RGN students in his small comparative questionnaire study comparing the attitudes of integrated degree students and RGN students towards nursing models. The RGN programme participants preference for Roper et al's (1990) activities of living model in this study may in part reflect a greater exposure to the model in their clinical placements. The medical model was not generally utilised by participants. Like the use of a systematic approach to data acquisition, it was clear that the use of a model was not widely utilised by the participants despite their centrality to most nursing care documentation and their exposition in all the nurse education programmes.

The approach to information-seeking was initially analysed in terms of primary focus of the information sought. The most frequently requested data was biographical (37%), however, there was a considerable range of data requested by the participants of all the programmes and it was necessary to combine categories for analysis. The only difference to emerge was more frequent requests for biographical data as a primary focus by the P2000 diploma participants as compared to integrated degree programme participants.

As the simulation exercise did not provide any guidelines regarding the ordering of requests for data, subsequent analysis of the data did not involve any assumptions regarding ranking or prioritising of the data requests and therefore all the analysis was at a descriptive level. Analysis of the biographical data requests revealed that the most frequently requested biographical data was next of kin (62%) followed by age (51%). This is not surprising since next of kin information is required if relatives are to be kept informed of a client's progress in health care and the age of a client may provide some indication of health needs. Regarding both next of kin and age data requests, the P2000 diploma programme participants made more requests compared to the integrated degree programme participants.

Client address is often the basis upon which the provider unit invoices the contractor and this finding may indicate a greater awareness of changes in health care financing among P2000 diploma programme participants with more requests from this programme group. Few differences emerged between the groups regarding medical history data, with the exception of more previous admission data requests by the integrated degree programme participants as compared with the P2000 diploma and RGN programme participants.

An enormous variety of physical health data was requested by the participants. Some interesting trends emerged regarding specific physical data requests with the RGN and integrated degree programme participants requesting more urological, respiratory and gastrointestinal data than P2000 diploma programme participants. The P2000 diploma programme participants made more requests for vision and hearing data compared to the other participant groups although no differences emerged regarding requests for communication needs data. The RGN programme participants made significantly more requests for data regarding the immediate nurse's role. Such findings perhaps give some indication as to the initial approach taken to physical assessment of a newly-admitted client. The greater exposure of RGN and integrated degree programme students as compared with P2000 diploma students to such scenarios during their clinical placements may in part explain apparent differences.

Specific differences between the groups regarding requests for psychological or social domain data emerged regarding the role of the family and significant others in the life of a client with more integrated degree programme participants requesting such data as compared with P2000 diploma programme and RGN participants which suggests perhaps a greater client focus in the integrated degree programme. Another difference to emerge was the greater number of requests for occupational status data from the RGN programme group coupled with a trend for more recreational interest data as compared with the P2000 diploma group which perhaps reflects an acknowledgement of the content of much of the social discourse between nurses and clients in a health care setting with which the RGN programme group may be more familiar.

Differences in information-seeking were not found to be related to highest educational qualification on entry to the course of preparation. Three significant differences emerged however between the centre data sets. Two of these differences related to the citation of a rationale for data requests. A further difference emerged regarding data requests concerning the immediate medical role between two of the RGN centres but the limited data set makes interpretation difficult. The reasons for these differences are unclear but may in part reflect local clinical practice or indeed the educational input experienced by the different RGN programme centres.

Chapter 5 Study Findings and Discussion: Simulation B (Care Plan)

A sample of ninety eight subjects (n=98) participated in the simulation B element of the research. Descriptive and inferential statistics are presented for the simulation B data explored with the following variables:

a. Programme of preparation.
b. Highest educational qualification.
c. Centre.

5.1 Programme of Preparation

5.1.i Global Care Plan Score

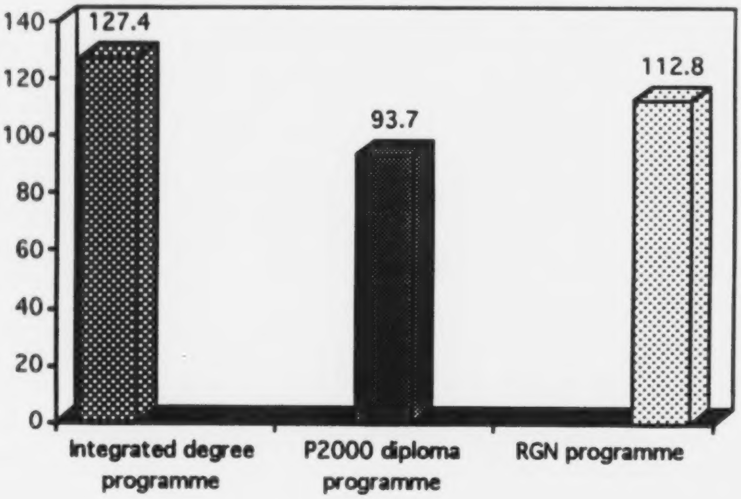
The global care plan score reflects performance in terms of problems 1 to 9 of the model care plan.

Table 33 Programme of Preparation by Global Care Plan Score

Programme of Preparation	**Median Global Score**	**Minimum Global Score**	**Maximum Global Score**
Integrated degree programme	127.4	60.8	236.9
P2000 diploma programme	93.7	22.6	149.0
RGN programme	112.8	58.8	180.4

The global scores ranged from 236.9 to 22.6 and the integrated degree programme had the highest median global score and the P2000 diploma programme had the lowest median global score. The Kruskal-Wallis test was used to examine the relationship between the programmes of preparation and the global simulation score. A significant difference between the three programmes of preparation was confirmed (*H* =8.12. 2df. p=0.02).

Figure 17 Median Global Care Plan Scores of Programmes of Preparation



The Mann-Whitney U test was performed to explore the significant differences in global care plan scores between the three programmes of preparation. The integrated degree programme achieved a significantly higher score than the P2000 diploma programme (*W*=1369.0 p=0.01). The RGN programme score was also significantly higher than the P2000 diploma programme score (*W*=1369.0 p=0.02). There was no difference between the global scores of the integrated degree programme and the RGN programme.

5.1.ii First Problem Identified

Table 34 Programme of Preparation by First Care Plan Problem Identified

Programme of preparation	**Problem 5 Anxiety/ Accommodation**	**Problem 4 Pain**	**Problem 6 Deafness**	**Problem 3 Anxiety/ Husband**	**Problem 7 Incontinence**	**Problem 8 Mouth Ulcers**	**Problem 2 Anxiety/ Admission**	**Problem 1 Dizzy Episodes**	**Problem 9 Bowels Not Open for 4 Days**
Integrated degree programme	6 20%	7 23%	5 17%	4 13%	4 13%	3 10%	1 3%	0 0%	0 0%
P2000 diploma programme	12 35%	8 24%	3 9%	6 18%	2 6%	0 0%	1 3%	2% 6%	0 0%
RGN programme	12 35%	7 21%	8 24%	4 12%	0 0%	1 3%	3 6%	0 0%	0 0%
TOTAL	30 31%	22 22%	16 16%	14 14%	6 6%	4 4%	4 4%	2 2%	0 0%

The most frequent first problems identified by all the programmes of preparation were Problem 5: 'Anxiety regarding accommodation' (31%, n=30) and Problem 4: 'Pain' (22%, n=22). 'Dizzy episodes' which was problem 1 in the model care plan was only identified by 2 participants as the first problem.

5.1.iii Number of Problems Identified

No participant identified all nine problems. The number of problems identified ranged from 8 to 1 with the median number being 5 for both the integrated degree programme and the RGN programme. The median number of problems identified by the P2000 diploma programme was 4. There was no difference between the three programmes.

5.1.iv Problem 1 – Dizzy Episodes

The scores ranged from 23 to 0 with the highest median score being gained by the integrated degree programme (13.5) and the lowest being gained by the P2000 diploma programme (11.5). There was considerable variability within each of the programmes, for example, in the RGN programme of preparation participants' scores ranged to 20.5 to 0. The RGN programme had a median score of 12.5. The Kruskal-Wallis test, however, found no difference in the scores of the different programmes of preparation.

5.1.v Problem 2 – Unsure of Reason for Admission

Descriptive statistics for the scores in this subsection indicated that 61% of participants achieved a score of zero. The scores ranged from 22.5 to 0. There was no difference between the scores of the three programmes of preparation according to the Kruskal-Wallis test.

5.1.vi Problem 3 – Anxiety Regarding how Husband will Cope

The scores ranged from 30.5 to 0 with the highest median score being gained by the integrated degree and RGN programmes (8.8) and the lowest median score being gained by the P2000 diploma programme (3.5). However, the Kruskal-Wallis test revealed no difference in the scores of the different programmes.

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5.1.vii Problem 4 – Painful Knees

The scores ranged from 30 to 0. The highest median score was achieved by the RGN programme (12.8) and the lowest was achieved by the P2000 diploma programme (9.8). The integrated degree programme gained a median score of 11.0. There was, however, no difference between the scores of the different programmes according to the Kruskal-Wallis test.

5.1.viii Problem 5 – Anxiety about Accommodation

The scores ranged from 22 to 0, however, 66% of participants achieved a score of zero. There was no difference between the scores of the three programmes of preparation according to the Kruskal-Wallis test.

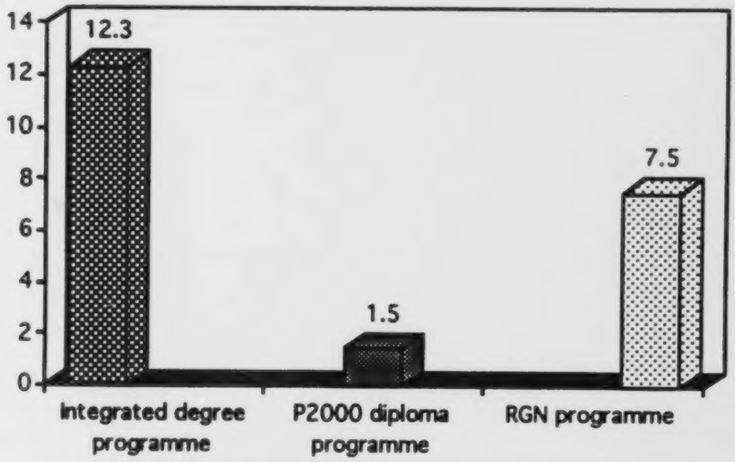
5.1.ix Problem 6 – Deafness

The scores ranged from 29.5 to 0, with 53% of the participants achieving a score of zero. There was no difference between the scores of the three programmes of preparation according to the Kruskal-Wallis test.

5.1.x Problem 7 – On Occasions Unable to Reach the Toilet in Time

The scores ranged from 33.5 to 0. The highest median score was achieved by the integrated degree programme (12.3) and the lowest median score was achieved by the P2000 diploma programme (1.5). The RGN programme gained a median score of 7.5.

Figure 18 Median Scores of Programmes of Preparation for Problem 7



The Kruskal-Wallis test revealed a significant difference between the scores of the three programmes of preparation (*H* =6.63. 2df. p=0.04). Using the Mann-Whitney U test to further explore this difference, the integrated degree programme achieved a significantly higher score than the P2000 diploma programme (*W* = 925.5 p=0.013). No further differences emerged.

5.1.xi Problem 8 – Mouth Ulcers

The scores ranged from 28.5 to 0. The highest median score was achieved by the RGN programme (14.8) and the lowest median score by the P2000 diploma programme (10.0). The integrated degree programme gained a median score of 13.8. There was no difference between the scores of the three programmes of preparation according to the Kruskal-Wallis test.

5.1.xii Problem 9 – Bowels Not Open for Four Days

The scores ranged from 31 to 0. The highest score was gained by the RGN programme (16.5) with the lowest score being gained by the P2000 diploma programme (11.3). The integrated degree programme achieved a median score of 15.5. The Kruskal-Wallis test revealed no difference between the scores of the three programmes of preparation.

5.1.xiii Problem Identification (Problems 1-9)

Table 35 Programme of Preparation by Scores Gained for Problem Identification

Programme of Preparation	**Median Score**	**Minimum Score**	**Maximum Score**
Integrated degree programme	47.5	20.3	76.0
P2000 diploma programme	41.4	5.5	73.0
RGN programme	42.1	22.1	65.8

The scores ranged from 76 to 5.5. The highest median score was achieved by the integrated degree programme with the lowest median score being achieved by the P2000 diploma programme. The RGN programme gained a median score of 42.1. There was considerable variability within the programmes, for example, the scores gained by P2000 programme participants ranged from 73.0 to 5.5. There was no difference between the scores of the three programmes of preparation according to the Kruskal-Wallis test.

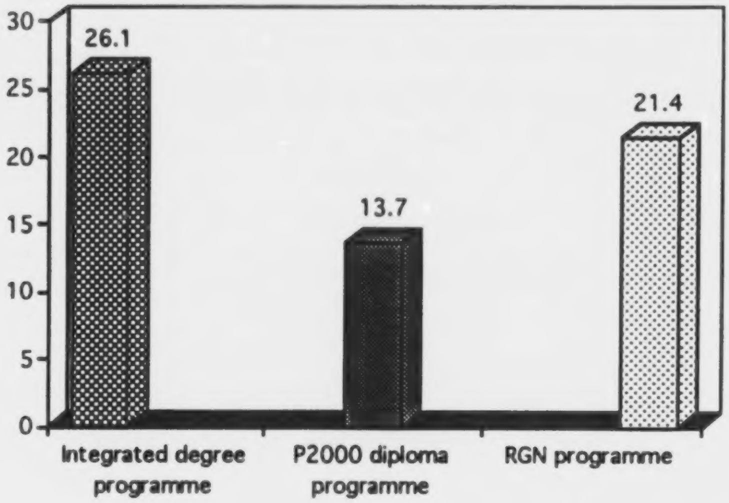
5.1.xiv Aims and Goals (Problems 1-9)

Table 36 Programme of Preparation by Scores Gained for Aims and Goals

Programme of Preparation	**Median Score**	**Minimum Score**	**Maximum Score**
Integrated degree programme	26.1	0.4	59.5
P2000 diploma programme	13.7	0.5	33.0
RGN programme	21.4	4.4	48.4

The scores ranged from 59.5 to 0.4. The highest median score was achieved by the integrated degree programme with the lowest median score being achieved by the P2000 diploma programme.

Figure 19 Median Scores of Programmes of Preparation for Aims and Goals



The Kruskal-Wallis test revealed a significant difference between the scores of the three programmes of preparation (*H* =8.76. 2df. p=0.01). Using the Mann-Whitney U test to further explore this difference, the integrated degree programme achieved a significantly higher score than the P2000 programme (*W* =1177.5 p=0.01). The RGN programme also gained a significantly higher score than the P2000 diploma programme (*W* =993.5 p=0.03). There was no difference, however, between the integrated degree programme and the RGN programme.

5.1.xv Nursing Action (Problems 1-9)

Table 37 Programme of Preparation by Scores Gained for Nursing Actions

Programme of Preparation	Median Score	Minimum Score	Maximum Score
Integrated degree programme	22.0	37.0	57.8
P2000 diploma programme	20.9	3.5	36.0
RGN programme	24.3	6.4	63.3

The scores ranged from 57.8 to 3.5. The highest median score was achieved by the RGN programme and the lowest median score was achieved by the P2000 diploma programme. There was no difference between the scores of the three programmes of preparation according to the Kruskal-Wallis test.

5.1.xvi Rationale (Problems 1-9)

The scores ranged from 46.6 to 0. The highest median score was gained by the RGN programme (10.8) and the lowest median score was gained by the P2000 diploma programme (10.0). The integrated degree programme gained a median score of 10.5. There was no difference between the scores of the three programmes of preparation according to the Kruskal-Wallis test.

5.1.xvii Evaluation (Problems 1-9)

The scores ranged from 39 to 0. The highest median score was gained by the RGN programme (8.6) and the lowest was gained by the integrated degree programme (7.6). The P2000 programme gained a median score of 8.0. The Kruskal-Wallis test revealed no difference between the scores of the three programmes of preparation.

5.1.xviii Participation in Care

The scores ranged from 8 to 0, however, 60.2% of participants achieved a score of zero. There was no difference between the scores of the three programmes of preparation according to the Kruskal-Wallis test.

5.1.xix Holistic Approach to Care

The scores ranged from 4.5 to 0, with 59.2% of participants achieving a score of zero. There was no difference between the scores of the three programmes of preparation according to the Kruskal-Wallis test.

5.1.xx Appropriate Knowledge Base

The scores ranged from 18 to 0, however, 80.6% of participants achieved a score of zero. The Kruskal-Wallis test revealed no difference between the scores of the three programmes of preparation.

5.1.xxi Physical Domain

Table 38 Programme of Preparation by Scores Gained for the Physical Domain

Programme of Preparation	Median Score	Minimum Score	Maximum Score
Integrated degree programme	86.4	38.5	159.9
P2000 diploma programme	72.4	19.6	111.5
RGN programme	80.4	31.8	135.1

Physical Domain= Problems:1, 4, 6, 7, 8,9.

The scores ranged from 159.9 to 19.6. The highest median score was gained by the integrated degree programme and the lowest median score was gained by the P2000 diploma programme. There was no difference between the scores of the three programmes of preparation according to the Kruskal-Wallis test.

5.1.xxii Psychosocial Domain

Table 39 Programme of Preparation by Scores Gained for the Psychosocial Domain

Programme of Preparation	**Median Score**	**Minimum Score**	**Maximum Score**
Integrated degree programme	30.5	0	106
P2000 diploma programme	21.5	0	78
RGN programme	32.0	0	86

Psychosocial Domain= Problems: 2, 3, 5.

The scores ranged from 106 to 0. The highest median score was achieved by the RGN programme and the lowest median score was achieved by the P2000 diploma programme. There was no difference between the scores of the three programmes of preparation according to the Kruskal-Wallis test.

5.1.xxiii Redundant Data

The scores ranged from 67 to 0. The Kruskal-Wallis test revealed no difference between the scores of the three programmes of preparation.

5.1.xxiv Unsafe Practice

No programme of preparation cited examples of unsafe practice in their care plans.

1[illegible]

5.2 Highest Educational Qualification on Course Entry

5.2.i Global Care Plan Score

Table 40 Highest Educational Qualification by Global Care Plan Scores

Highest Educational Qualification	**Median Global Score**	**Minimum Global Score**	**Maximum Global Score**
4-9 GCSEs (n=21)	98.4	22.6	153.1
1>A Levels (n=78)	105.9	26.8	236.9

The scores for participants ranged from 236.9 to 22.6 and the highest median score was achieved by participants with one or more A levels. The Mann-Whitney U test was used to examine the relationship between highest educational qualification and the global care plan scores and no difference emerged.

5.3 Centre

5.3.i Global Care Plan Score

Centre data were explored to ensure that no one centre biased a programme of preparation.

Table 41 Centre by Global Care Plan Scores

Centre	Median Global Score	Minimum Global Score	Maximum Global Score
A	112.3	75.8	162.4
C	135.6	75.9	171.5
D	94.0	58.7	180.4
B	97.4	65.4	149.0
E	93.4	22.6	115.6
I	87.1	26.8	130.0
F	129.2	69.6	163.0
G	140.8	68.5	236.9
H	78.7	60.8	145.9

The scores for the participants ranged from 236.9 to 22.6. The median centre scores had a range of 140.8 to 78.7. The Kruskal-Wallis test was used to examine the relationship between centres and the global care plan score and a significant difference between the nine centres was confirmed (*H* =22.33. 8df. p=0.01). The Mann-Whitney U test was used to explore the significant difference further; the only significant difference in centre scores emerged between centres G and H, both of which represented the integrated degree programme.

5.4 Comparative Analysis of Simulation A: Information-Seeking and Simulation B: Care Plan

The Spearman's rank correlation coefficient test has been computed using a one-sided test unless otherwise stated to explore relationships between Simulation A and Simulation B.

A relationship emerged between a greater number of total information-seeking units and a higher global care plan score (r_s=0.265 $p<0.005$). Equally, there was a modest relationship between the total number of citations of a rationale when information-seeking and the rationale score in the care plan (r_s=0.254 $p<0.01$).

Using the Kruskal-Wallis test no significant associations were found when the use of a systematic format when information-seeking was explored with the following data: global care plan score, problem identification score and redundant data score. There was also no association between use of a multi-focal approach when information-seeking and score for a holistic approach in the care plan.

5.5 Summary of Findings: Simulation B (Care Plan)

There was a large range in the individual global care plan scores of participants, with the highest scores being obtained for problem identification and the lowest for the rationale and evaluation subsections. Equally, higher scores were obtained by participants for the physical as opposed to the psychosocial domain. A majority of participants gained scores of zero for both evidence of client participation in care and a holistic approach to care.

Specific differences which emerged included the higher global score obtained by both the integrated degree and RGN programme participants. This difference in global score was reflected throughout the data set with the P2000 diploma participants achieving consistently lower scores in most units of analysis.

Two further differences emerged, with integrated degree programme participants achieving higher median scores for the identification of aims and goals and for problem 7 (on occasion unable to reach the toilet in time) as compared with the P2000 diploma programme scores, with the RGN programme scores falling between.

A higher median global score was obtained by those participants with 1 A level or more. Only one difference emerged between centre data sets in terms of the scores obtained by centres G and H, both of which represented the integrated degree programme.

A modest relationship emerged between participants performance in Simulation A and Simulation B in relation to total information-seeking units and a higher global care plan score and between the citation of a rationale when information-seeking and the rationale score in the care plan.

5.6 Discussion: Simulation B (Care Plan)

Problem-solving is a key characteristic of effective nurse performance (McCarthy, 1981; Berger, 1984; UKCC, 1986; Tanner et al, 1987; Hurst et al, 1991; Roberts et al, 1993) and the opportunity to test such skills was presented in the care plan simulation exercise. Further, it could be argued that all qualified nurses in practice should be capable of writing a sound plan for patient care since such an outcome was stipulated by both Statutory Instruments (1969; 1989) which set out the contents of the nurse education programmes. The UKCC (1993) has also emphasised the centrality of care plans to sound nursing practice of all registered practitioners and care planning falls within the role of all registered nurses (UKCC, 1992b).

The individual global care plan scores covered a wide range, from 236.9 to 22.6 with the median programme group scores ranging from 127.4 to 93.7. The highest scores were obtained for problem identification and the lowest for rationale and evaluation. Few participants cited a rationale in the information-seeking simulation and this was further reflected in the care-planning exercise. Such a finding possibly demonstrates the difficulty students have in outlining the rationale underlying prescribed nursing actions (Baumann & Bourbonnais, 1982). Equally, lower scores in the evaluation subsection probably reflect the inherent difficulties most students have with the evaluation component of the nursing process (Yura & Walsh, 1983).

The first problem identified by the different programmes of preparation were very similar with most participants choosing initially to focus upon either "Anxiety about accommodation" or "Painful knees". Further, the number of problems identified was similar across the programmes. The scores gained by most participants regarding evidence of client participation in care, a holistic approach to care and appropriate knowledge base in their care plans was low. The scores mirror findings for the information-seeking exercise where only half of the participants demonstrated a multi-focal approach.

Certain key differences also emerged, however, with the median global care plan score of both the integrated degree programme and RGN programme being significantly higher than that of the P2000 diploma programme. The more detailed analysis of the care plan data revealed that the significant difference in global median scores of the different programmes was supported by a consistent trend throughout the data set with the P2000 diploma programme gaining the lowest median score for the analysis of each care plan problem although the difference between the P2000 diploma programme median score and those of the other programmes was only significantly different regarding problem 7 "On occasions unable to reach the toilet in time". The same trend in the data was evident regarding total problem identification, nursing action, rationale given for nursing action and problem evaluation and the difference in scores was significant regarding the aims and goals subsection of the care plan. Encouragingly, no participant cited an example of unsafe practice in their care plan and only a few participants included redundant data, however, some participants clearly had considerable difficulty in formulating an adequate nursing care plan.

Examination of the different curricula documents revealed an apparent similarity between all the courses regarding the preparation of students in care planning. The use of simulation exercises to develop care planning skills was not evident either in the course submission documents or in discussion with the different course leaders and yet interestingly the median global centre scores for the simulation exercise ranged from 140.8 to 78.7. However, with the exception of a significant difference between centres G and H, the median global scores of the centres were similar within the programme groups. The difference in scores between centres G and H may reflect situational and personal variables among participants at Centre H who appeared stressed at the time of data collection.

Potentially the different programme scores could have been due to the different educational backgrounds of the students although care had been taken at recruitment to the study to maintain a high educational level among participants. On analysis of the data regarding the median scores, while not statistically significant, those with at least one 'A' level pass did obtain a higher median global score. A larger sample size would however be required to more effectively identify the potential effect of educational preparation upon problem-solving skills.

Difference in scores between the programme groups may in part be due to the programmes of preparation themselves which differ in a number of ways. Firstly, although the simulation took place at a similar point in time for all the courses, that is, within the last 3 months of the course, both the RGN and integrated degree programmes had provided students with substantial clinical experience prior to that time in contrast to the P2000 diploma which contains considerably less clinical time in total with much of that experience being gained in the last few months of the course. Secondly, the focus of clinical practice of the RGN and integrated degree programmes is upon institutional care where students are able to gain many opportunities to practice care planning and thereby refine their skills. In contrast the P2000 diploma programme includes both institutional and community experience and it is unlikely that during the community experience students will gain the same opportunities for care planning as are afforded by a hospital ward experience. Thirdly, the cohort size of the programme groups was notably different. Both RGN and integrated degree programme groups were never larger than 35 students at their intake while the P2000 diploma groups were considerably larger with the usual intake to a Common Foundation Programme being in excess of 100 students. It is difficult to estimate the impact of large cohort size upon a programme's delivery, however, it would be understandable if the maintenance of educational quality was more difficult especially with large groups of students placed in a variety of settings at any one time and as a consequence making it difficult to ensure that all students gain the necessary opportunities to develop their problem-solving skills for clinical practice. And fourthly, the RGN and integrated degree programmes were well established while the P2000 diploma programme was in its infancy and has had a number of developmental problems with which to contend (Collins, 1989; Howett et al, 1994). Indeed, the tremendous rate of change in nurse education and in the health care setting described in Section 1.3 has posed challenges for all the programmes as they seek to optimise the reduction in clinical settings and manage the high rate of staff turnover both in those settings and in the education establishment itself.

Chapter 6 Study Findings and Discussion: Non-Participant Observation

A sample of ninety nine subjects (n=99) participated in the observation element of the research. Descriptive and inferential statistics are presented for the observation data explored with the following variables:

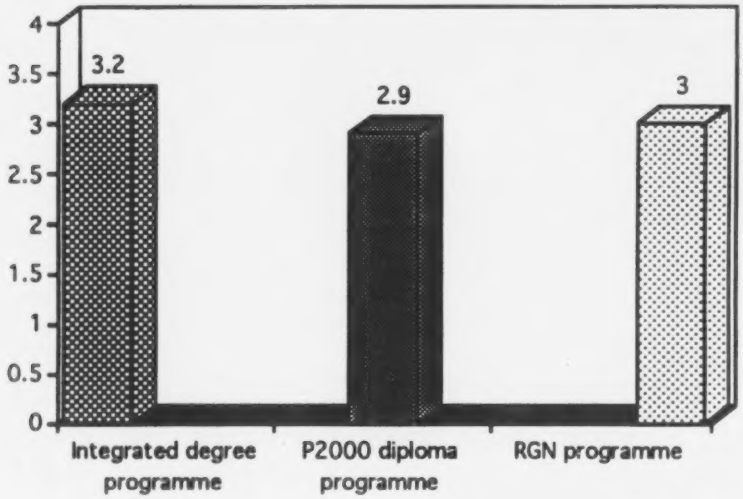
a. Programme of preparation.
b. Highest educational qualification on entry to programme of preparation.
c. Centre.

6.1 Programme of Preparation

6.1.i Total Observation Score

The median scores ranged from 3.2 to 2.9. The highest median score was achieved by the integrated degree programme and the lowest median score was achieved by the P2000 diploma programme. The Kruskal-Wallis test was used to examine the relationship between programme of preparation and total observation score and a significant difference was confirmed (H =8.05. 2df. p=0.02). Further examination using the Mann-Whitney U test confirmed that the integrated degree programme achieved a significantly higher score than the P2000 diploma programme (W =1222.0 p=0.01) and the RGN programme (W =1181.0 p=0.04). There was no difference between the P2000 diploma programme and the RGN programme.

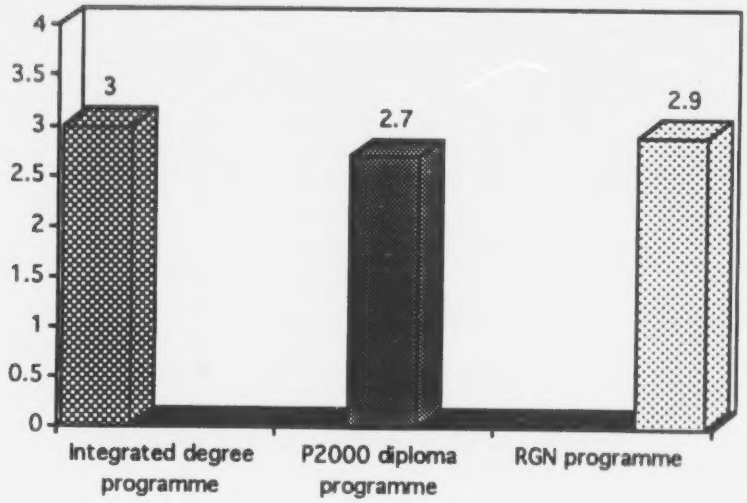
Figure 20 Median Total Observation Scores of Programmes of Preparation



6.1.ii Physical Domain Score

The different sections of the observation schedule reflected care giving in different domains of clinical practice and are reported accordingly. The highest median scores for the physical domain were achieved by the integrated degree programme and the lowest median score was achieved by the P2000 diploma programme. There was no difference between the three programmes of preparation regarding their performance in the physical domain according to the Kruskal-Wallis test.

Figure 21 Median Scores of the Programmes of Preparation for Physical Domain



The observational data for the physical domain were subjected to further examination using the levels of performance of the criterion-referenced rating scale (Appendix XII). Descriptive and inferential statistics are presented with programme of preparation.

Table 42 Programme of Preparation by Physical Domain: Mean % of Ratings at Performance Levels

Programme of Preparation	**Independent**	**Assisted**	**Marginal**	**Dependent**	**Omitted**	**Total No. of Observations**	**Median Score** [*]
Integrated degree programme	Mean: 51.7 Median: 51.9	Mean: 11.4 Median: 11.0	Mean: 22.8 Median: 25.2	Mean: 7.4 Median: 6.0	Mean: 6.6 Median: 5.6	Mean: 88.8 Median: 91.0	3.0
P2000 diploma programme	Mean: 45.8 Median: 44.8	Mean: 16.1 Median: 15.7	Mean: 17.2 Median: 17.7	Mean: 10.2 Median: 8.3	Mean: 10.7 Median: 11.0	Mean: 86.9 Median: 89.0	2.7
RGN programme	Mean: 49.8 Median: 51.8	Mean: 13.8 Median: 13.0	Mean: 17.1 Median: 16.9	Mean: 9.4 Median: 9.4	Mean: 9.9 Median: 9.0	Mean: 90.3 Median: 94.0	2.9

To examine performance at the upper end of the criterion-referenced rating scale, the independent and assisted levels were combined. The mean percentages ranged from 64.8 to 60.5 and the RGN programme had the highest mean percentage and the P2000 diploma programme obtained the lowest mean percentage. At the marginal level the mean percentages ranged from 22.8 to 17.1 with the highest mean percentage being obtained by the integrated degree programme and the lowest mean percentage being obtained by the RGN programme. The mean percentages at the dependent level ranged from 10.2 to 7.4 and the P2000 diploma programme had the highest mean percentage and the integrated degree programme obtained the lowest mean percentage. The mean percentage of omitted care ratings ranged from 10.7 to 6.6 with the highest mean percentage being obtained by the P2000 diploma programme and the lowest mean percentage being gained by the integrated degree programme.

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[*] This median score reflects the mean scores calculated using formula B (p60).

The Kruskal-Wallis test revealed no differences between the three programmes of preparation regarding their performance at the independent, assisted, marginal, and dependent levels of performance. A significant difference emerged between the three programmes of preparation regarding omitted care ratings (*H*= 7.81. 2df. p=0.02); these differences were between the integrated degree programme and the P2000 diploma programme (*W*= 827.0. p=0.01) and between the integrated degree programme and RGN programme (*W*= 856.5. p=0.03) using the Mann-Whitney U test. Thus the integrated degree programme had less omitted ratings as compared with the RGN and P2000 diploma programmes. There was no difference between the P2000 diploma programme and the RGN programme.

6.1.iii Psychosocial Domain Score

The calculation for this table included 98 cases since 1 case contained missing values. The highest median score was gained by the integrated degree programme and the lowest median score was gained by the P2000 diploma programme. The Kruskal-Wallis test revealed no difference in the scores between the three programmes of preparation in the psychosocial domain.

Figure 22 Median Scores of the Programmes of Preparation for Psychosocial Domain

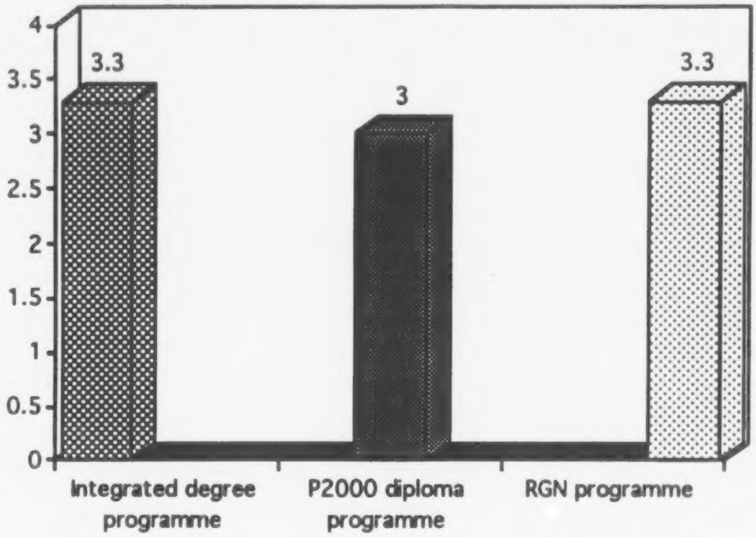


Table 43 Programme of Preparation by Psychosocial Domain: Mean % of Ratings at Performance Levels

Programme of Preparation	**Independent**	**Assisted**	**Marginal**	**Dependent**	**Omitted**	**Total No. of Observations**	**Median Score**
Integrated degree programme	Mean: 60.4 Median: 66.7	Mean: 18.1 Median: 16.7	Mean: 8.3 Median: 0	Mean: 6.2 Median: 0	Mean: 7.0 Median: 0	Mean: 8.3 Median: 8.0	3.3
P2000 diploma programme	Mean: 47.5 Median: 41.4	Mean: 24.9 Median: 20.0	Mean: 16.0 Median: 0	Mean: 4.2 Median: 0	Mean: 7.4 Median: 0	Mean: 5.6 Median: 5.0	3.0
RGN programme	Mean: 56.5 Median: 66.7	Mean: 17.8 Median: 14.3	Mean: 11.3 Median: 0	Mean: 6.2 Median: 0	Mean: 8.2 Median: 0	Mean: 7.6 Median: 7.0	3.3

The mean percentage of ratings for each programme of preparation at the upper end of the criterion-referenced rating scale was over 70% for the independent and assisted levels combined. At the marginal level of performance the mean percentages ranged from 16.0 to 8.3 with the P2000 diploma programme obtaining the highest mean percentage and the integrated degree programme obtaining the lowest mean percentage. At the dependent level the mean percentages ranged from 6.2 to 4.2 with the highest mean percentage being obtained by the integrated degree and RGN programmes and the lowest being gained by the P2000 diploma programme. The mean percentage of omitted care ratings ranged from 8.2 to 7.0. The highest mean percentage was obtained by the RGN programme and the lowest mean percentage was gained by the integrated degree programme. According to the Kruskal-Wallis test there was no difference between the three programmes of preparation at the independent, assisted, and dependent levels of performance. There was no difference between the programmes of preparation regarding omitted care ratings according to the Kruskal-Wallis test.

6.1.iv Professional Implications Score

The highest median score was gained by the integrated degree programme and the lowest median score was gained by the P2000 diploma programme. However, the Kruskal-Wallis test revealed no difference between the scores of the three programmes of preparation in this subsection.

Figure 23 Median Scores of the Programmes of Preparation for Professional Implications

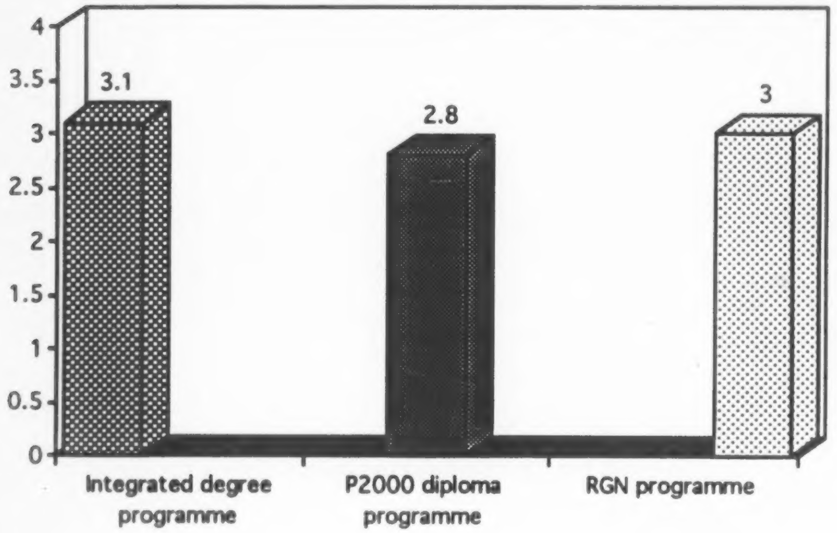


Table 44 Programme of Preparation by Professional Implications: Mean % of Ratings at Performance Levels

Programme of Preparation	**Independent**	**Assisted**	**Marginal**	**Dependent**	**Omitted**	**Total No. of Observations**	**Median Score**
Integrated degree programme	Mean: 55.1 Median: 55.4	Mean: 12.9 Median: 12.5	Mean: 20.3 Median: 21.0	Mean: 6.0 Median: 4.2	Mean: 5.7 Median: 4.9	Mean: 58.1 Median: 58.0	3.1
P2000 diploma programme	Mean: 48.5 Median: 46.6	Mean: 16.0 Median: 12.8	Mean: 18.5 Median: 16.4	Mean: 10.3 Median: 8.2	Mean: 6.8 Median: 6.2	Mean: 56.8 Median: 56.0	2.8
RGN programme	Mean: 53.6 Median: 55.7	Mean: 11.2 Median: 12.0	Mean: 16.4 Median: 16.2	Mean: 10.1 Median: 8.3	Mean: 8.7 Median: 7.6	Mean: 57.4 Median: 57.5	3.0

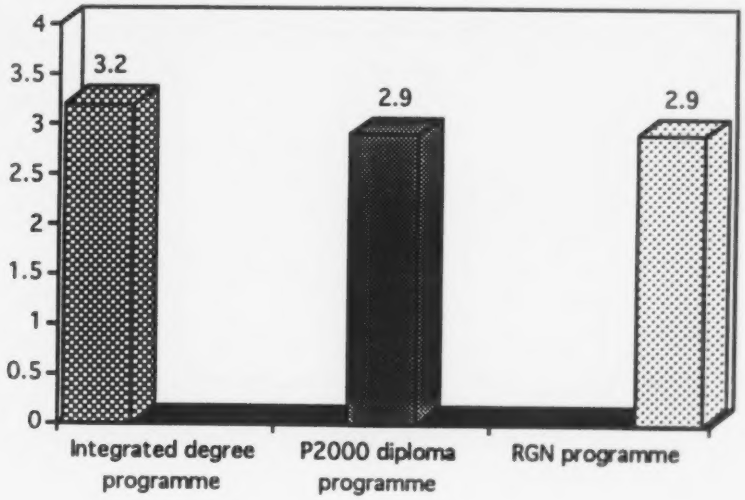
At the upper end of the criterion-referenced rating scale, the mean percentages ranged from 68.0 to 64.5 for the independent and assisted levels combined and the highest mean percentage was obtained by the integrated degree programme. At the marginal level of performance the mean percentages ranged from 20.3 to 16.4 and the integrated degree programme obtained the highest mean percentage. The mean percentages at the dependent level ranged from 10.3 to 6.0. The highest mean percentage was obtained by the P2000 and RGN programmes and the lowest mean percentage was obtained by the integrated degree programme. The mean percentage of omitted care ratings ranged from 8.7 to 5.7 with the highest mean percentage being obtained by the RGN programme and the lowest mean percentage being obtained by the integrated degree programme.

Using the Kruskal-Wallis test there was no difference between the three programmes of preparation at the independent and assisted levels. There was a significant difference, however, between the programmes of preparation at the dependent level (*H*= 7.17. 2df. p=0.03); the differences occurred between the integrated degree programme and P2000 diploma programme (*W*= 835.0. p=0.01) and the integrated degree programme and RGN programme (*W*= 859.0. p=0.03). Thus the integrated degree programme had less dependent ratings than the RGN and P2000 diploma programmes. There was no difference between the P2000 diploma programme and the RGN programme. The Kruskal-Wallis test revealed no difference between the programmes of preparation regarding omitted care ratings.

6.1.v Promotion of Health and Teaching Skills Score

The median scores ranged from 3.2 to 2.9 with the integrated degree programme achieving the highest median score.

Figure 24 Median Scores of the Programmes of Preparation for Promotion of Health and Teaching Skills



The Kruskal-Wallis test revealed a significant difference between the scores of the three programmes of preparation (*H* =9.31. 2df. p=0.01). Using the Mann-Whitney U test to further explore this difference, the integrated degree programme achieved a significantly higher score than the P2000 diploma programme (*W* =1242.0 p=0.004) and the RGN programme (*W* =1205.0 p=0.02). There was no difference between the P2000 diploma programme and the RGN programme.

Table 45 Programme of Preparation by Promotion of Health and Teaching Skills: Mean % of Ratings at Performance Levels

Programme of Preparation	**Independent**	**Assisted**	**Marginal**	**Dependent**	**Omitted**	**Total No. of Observations**	**Median Score**
Integrated degree programme	Mean: 56.3 Median: 55.6	Mean: 22.2 Median: 20.0	Mean: 13.6 Median: 12.5	Mean: 4.2 Median: 0	Mean: 3.7 Median: 0	Mean: 25.1 Median: 26.0	3.2
P2000 diploma programme	Mean: 38.9 Median: 34.4	Mean: 26.6 Median: 23.8	Mean: 20.0 Median: 17.4	Mean: 6.7 Median: 1.9	Mean: 7.8 Median: 4.7	Mean: 21.1 Median: 21.0	2.9
RGN programme	Mean: 42.1 Median: 37.7	Mean: 24.4 Median: 25.4	Mean: 17.5 Median: 14.1	Mean: 7.8 Median: 3.9	Mean: 8.2 Median: 3.6	Mean: 22.7 Median: 22.5	2.9

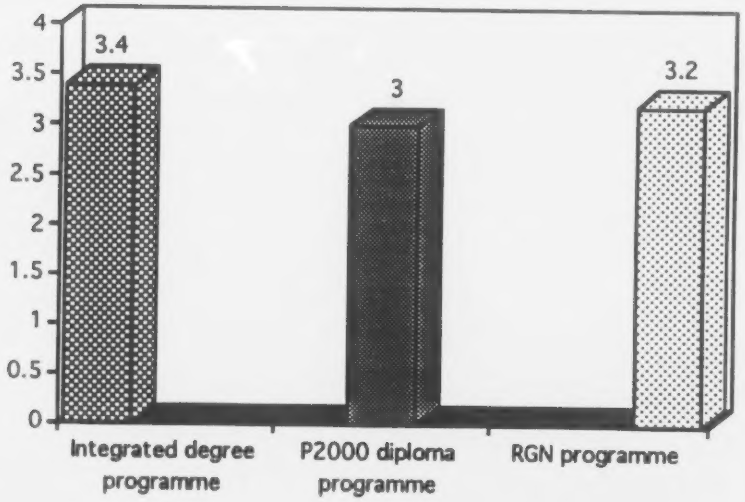
The mean percentages at the upper end of the criterion-referenced rating scale, that is, the independent and assisted levels combined, ranged from 78.5 to 65.4 and the integrated degree programme obtained the highest mean percentage and the P2000 diploma programme obtained the lowest mean percentage. At the marginal level the mean percentages ranged from 20.0 to 13.6 with the P2000 diploma programme obtaining the highest mean percentage and the integrated degree programme obtaining the lowest mean percentage. The mean percentages at the dependent level ranged from 7.8 to 4.2 with the RGN programme obtaining the highest mean percentage. The mean percentage of omitted care ratings ranged from 8.2 to 3.7 with the RGN programme obtaining the highest mean percentage and the integrated degree programme obtaining the lowest mean percentage.

The Kruskal-Wallis test revealed a significant difference between the three programmes of preparation at the upper end of the criterion-referenced rating scale (*H*= 6.40. 2df. p=0.04). Examining the independent level separately, a difference emerged between the three programmes of preparation (*H*= 9.77. 2df. p=0.01). At the independent level, the Mann-Whitney U test revealed differences between the integrated degree and P2000 diploma programmes (*W*= 1237.0. p=0.005) and the integrated degree and RGN programmes (*W*= 1214.0. p=0.01). There was no difference between the P2000 diploma programme and RGN programme. At the assisted and dependent levels of performance, no differences were found between the programmes. Regarding omitted care ratings, no differences were found between the different programmes of preparation according to the Kruskal-Wallis test.

6.1.vi Care Management Skills and the Organisation of Workload Score

The median scores ranged from 3.4 to 3.0 with the integrated degree programme gaining the highest median score and the P2000 diploma programme gaining the lowest median score.

Figure 25 Median scores of the Programmes of Preparation for Care Management Skills and the Organisation of Workload



The difference between the scores was significant using the Kruskal-Wallis test (*H* =8.11. 2df. p=0.02). On further examination, a difference emerged between the integrated degree programme and the P2000 diploma programme using the Mann-Whitney U test (*W* = 1229.0 p=0.01), that is, the former gained a significantly higher score. There were no differences between the integrated degree programme and RGN programme scores or between the P2000 diploma programme and RGN programme scores.

Table 46 Programme of Preparation by Care Management Skills and the Organisation of Workload: Mean % of ratings at Performance Levels

Programme of Preparation	**Independent**	**Assisted**	**Marginal**	**Dependent**	**Omitted**	**Total No. of Observations**	**Median Score**
Integrated degree programme	Mean: 62.5 Median: 66.2	Mean: 20.6 Median: 19.1	Mean: 10.7 Median: 9.4	Mean: 3.9 Median: 3.2	Mean: 2.4 Median: 1.7	Mean: 57.2 Median: 59.0	3.4
P2000 diploma programme	Mean: 50.6 Median: 47.2	Mean: 21.2 Median: 16.3	Mean: 14.3 Median: 13.0	Mean: 8.9 Median: 6.3	Mean: 5.0 Median: 3.2	Mean: 49.9 Median: 48.0	3.0
RGN programme	Mean: 56.8 Median: 55.5	Mean: 19.0 Median: 17.0	Mean: 12.2 Median: 10.8	Mean: 8.1 Median: 5.7	Mean: 3.9 Median: 2.5	Mean: 51.8 Median: 48.0	3.2

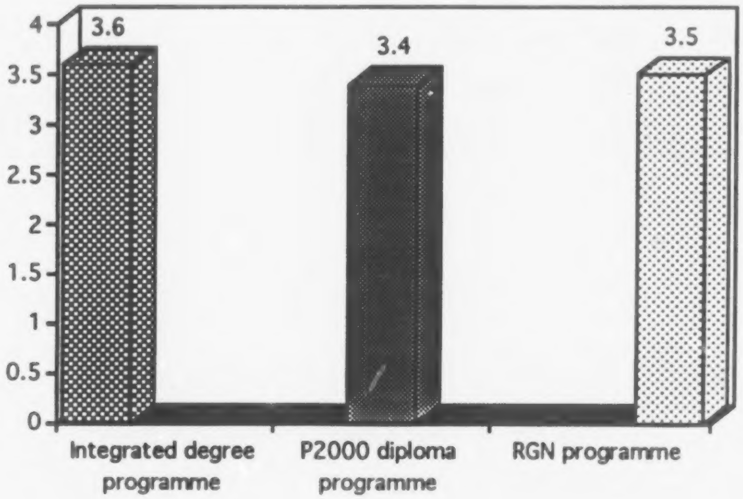
The mean percentage at the upper end of the criterion-referenced rating scale, that is at the independent and assisted levels combined, ranged from 83.1 to 71.7 with the integrated degree programme obtaining the highest mean percentage and the P2000 diploma programme obtaining the lowest mean percentage. The mean percentages at the marginal level ranged from 14.3 to 10.7 with the highest mean percentage being obtained by the P2000 diploma programme. At the dependent level the mean percentages ranged from 8.9 to 3.9 with the P2000 diploma programme obtaining the highest mean percentage and the integrated degree programme obtaining the lowest mean percentage. The mean percentages of omitted care ratings ranged from 5.0 to 2.4 with the highest mean percentage being obtained by the P2000 diploma programme and the lowest mean percentage being obtained by the integrated degree programme.

According to the Kruskal-Wallis test there was no significant difference between the three programmes of preparation at the independent and assisted levels. At the lower end of the criterion-referenced rating scale, the Kruskal-Wallis test yielded a significant difference at the dependent level (*H*= 6.12. 2df. p=0.05) and further examination confirmed differences between the integrated degree programme and P2000 diploma programme (*W*= 849.0. p=0.02) and the integrated degree programme and RGN programme (*W*= 873.0. p=0.05) using the Mann-Whitney U test. There was no difference between the P2000 diploma programme and the RGN programme. No difference emerged between the programmes of preparation regarding omitted care ratings.

6.1.vii Communication Skills Score

The highest median score was gained by the integrated degree programme and the lowest median score was gained by the P2000 diploma programme.

Figure 26 Median Scores of the Programmes of Preparation for Communication Skills



According to the Kruskal-Wallis test there was a significant difference between the three programmes (*H* =6.71. 2df. p=0.04). A difference emerged between the integrated degree programme and the P2000 diploma programme using the Mann-Whitney U test (*W* =1219.5 p=0.0100), that is, the former gained a significantly higher score. There was no difference between the integrated degree programme and RGN programme or between the P2000 diploma programme and RGN programme.

Table 47 Programme of Preparation by Communication Skills: Mean % of Ratings at Performance Levels

Programme of Preparation	**Independent**	**Assisted**	**Marginal**	**Dependent**	**Omitted**	**Total No. of Observations**	**Median Score**
Integrated degree programme	Mean: 74.8 Median: 73.7	Mean: 14.3 Median: 14.8	Mean: 7.4 Median: 7.9	Mean: 1.8 Median: 0	Mean: 1.6 Median: 0	Mean: 39.2 Median: 39.0	3.6
P2000 diploma programme	Mean: 60.5 Median: 63.8	Mean: 20.2 Median: 19.1	Mean: 11.0 Median: 10.0	Mean: 4.1 Median: 2.2	Mean: 4.2 Median: 2.6	Mean: 37.3 Median: 37.5	3.4
RGN programme	Mean: 69.2 Median: 73.5	Mean: 13.7 Median: 12.3	Mean: 9.5 Median: 8.7	Mean: 4.7 Median: 2.2	Mean: 3.0 Median: 1.0	Mean: 39.7 Median: 41.0	3.5

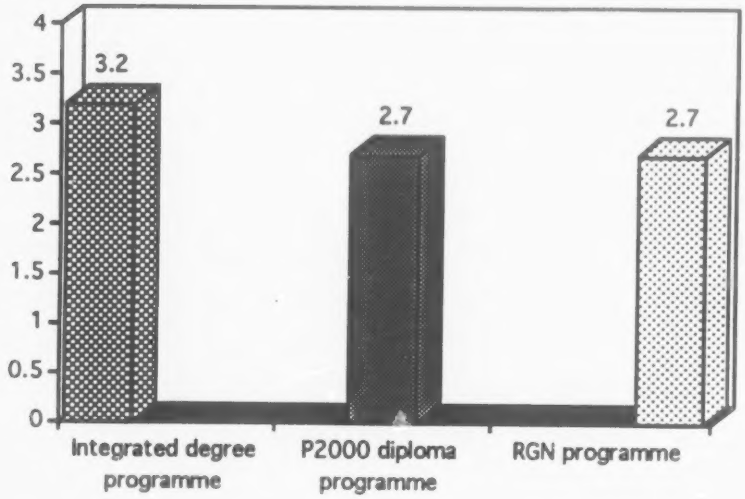
The mean percentage at the upper end of the criterion-referenced rating scale, that is, the independent and assisted levels combined, ranged from 89.2 to 80.7 with the highest mean percentage being obtained by the integrated degree programme. At the marginal level the mean percentage ranged from 11.0 to 7.4 with the highest mean percentage being obtained by the P2000 diploma programme. The mean percentages at the dependent level ranged from 4.7 to 1.8 with the highest mean percentage being obtained by the RGN programme and the lowest mean percentage being obtained by the integrated degree programme. The mean percentages of omitted care ratings ranged from 4.2 to 1.6 with the highest mean percentage being obtained by the P2000 diploma programme and the lowest mean percentage being obtained by the integrated degree programme.

The Kruskal-Wallis test revealed a significant difference between the three programmes of preparation at the independent and assisted levels combined ($H= 6.09$. 2df. p=0.05). Examining the independent level separately, the Kruskal-Wallis test confirmed a significant difference between the programmes of preparation ($H= 6.30$. 2df. p=0.04) and further exploration confirmed a difference between the integrated degree programme and P2000 diploma programme ($W= 1213.0$. p=0.01). At the assisted and dependent levels there were no differences between the three programmes of preparation . The Kruskal-Wallis test revealed a difference regarding omitted care ratings ($H= 6.99$. 2df. p=0.03). Further examination of omitted care ratings using the Mann-Whitney U test confirmed a difference between the integrated degree programme and P2000 diploma programme, that is, the integrated degree programme had less omitted ratings ($W= 839.0$. p=0.01).

6.1.viii Use of the Nursing Process in Planning Care Score

The median scores ranged from 3.2 to 2.7 with the integrated degree programme achieving the highest median score for this subsection.

Figure 27 Median Scores of the Programmes of Preparation for Use of the Nursing Process in Planning Care



There was a significant difference between the three programmes using the Kruskal-Wallis test (*H* =12.71. 2df. p=0.002). The integrated degree programme achieved a higher score than the P2000 diploma programme (*W* =1276.0 p=0.001) and the RGN programme score (*W*= 1236.0 p=0.01) according to the Mann-Whitney U test. There was no difference between the P2000 diploma programme score and the RGN programme score.

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Table 48 Programme of Preparation by Use of the Nursing Process in Planning Care: Mean % of Ratings at Performance Levels

Programme of Preparation	**Independent**	**Assisted**	**Marginal**	**Dependent**	**Omitted**	**Total No. of Observations**	**Median Score**
Integrated degree programme	Mean: 57.3 Median: 59.3	Mean: 14.0 Median: 11.9	Mean: 17.7 Median: 16.5	Mean: 4.5 Median: 4.3	Mean: 6.5 Median: 5.6	Mean: 75.5 Median: 73.0	3.2
P2000 diploma programme	Mean: 41.4 Median: 41.8	Mean: 18.9 Median: 17.9	Mean: 16.7 Median: 16.7	Mean: 7.2 Median: 4.1	Mean: 15.8 Median: 11.4	Mean: 70.0 Median: 67.0	2.7
RGN programme	Mean: 47.0 Median: 43.2	Mean: 15.2 Median: 14.8	Mean: 16.1 Median: 16.6	Mean: 6.5 Median: 3.7	Mean: 15.2 Median: 13.0	Mean: 67.3 Median: 63.0	2.7

The mean percentages at the combined independent and assisted levels, that is, at the upper end of the criterion-referenced rating scale, ranged from 71.3 to 60.3 with the highest mean percentage being obtained by the integrated degree programme and the lowest mean percentage being obtained by the P2000 diploma programme. At the marginal level the mean percentages ranged from 17.7 to 16.1 with the highest mean percentage being obtained by the integrated degree programme. The mean percentages at the dependent level ranged from 7.2 to 4.5 and the P2000 diploma programme obtained the highest mean percentage and the integrated degree programme obtained the lowest mean percentage. The mean percentages of omitted care ratings ranged from 15.8 to 6.5. The highest mean percentage was obtained by the P2000 diploma programme and the lowest mean percentage was obtained by the integrated degree programme.

The Kruskal-Wallis test yielded a significant difference between the three programmes of preparation at the independent and assisted levels combined (*H*= 8.34. 2df. p=0.02). Examining the independent and assisted levels separately, there was a difference between the three programmes at the independent level (*H*= 10.67. 2df. p=0.01). Further examination of performance at the independent level using the Mann-Whitney U test yielded differences between the integrated degree programme and P2000 diploma programme (*W*= 1266.0. p=0.001) and the integrated degree programme and RGN programme (*W*= 1186.0. p=0.03). There was no difference between the P2000 diploma programme and RGN programme.

At the assisted and dependent levels there were no differences between the programmes. A significant difference was found regarding omitted care ratings (*H*= 15.25. 2df. p=0.001) and further examination confirmed differences between the integrated degree programme and P2000 diploma programme (*W*= 764.5. p=0.001) and the integrated degree programme and RGN programme (*W*= 764.0. p=0.001) using the Mann-Whitney U test. Thus the integrated degree programme had the lowest mean percentage of omitted care ratings. There was no difference between the P2000 diploma programme and RGN programme.

6.2 Highest Educational Qualification on Course Entry

6.2.i Total Observation Score

The median observation scores were similar for the two groups with those having a higher educational qualification on entry gaining a marginally higher score, 3.1 for those with 1 or more 'A' Levels and in comparison to 3.0 for the those with 4-9 GCSEs. There was, however, no significant difference between the performance scores of the two groups.

6.2.ii Physical Domain Score

The median scores were similar and the Kruskal-Wallis test confirmed that there was no difference between the two groups .

6.2.iii Psychosocial Domain Score

The group with the lowest educational qualifications gained the highest median score but the difference was not significant according to the Kruskal -Wallis test.

6.2.iv Professional Implications Score

Both groups gained identical median scores for this subsection of nurse performance according to the Kruskal-Wallis test.

6.2.v Promotion of Health and Teaching Skills Score

The group with one 'A' level or more gained the highest median score but this difference was not significant.

6.2.vi Care Management Skills and the Organisation of Workload Score

Again the group with one `A' level or more achieved the highest median score, however, this difference was not significant using the Kruskal-Wallis test

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6.2.vii Use of the Nursing Process in Planning Care Score

The greatest median score difference occurred when the scores were compared for this element of nursing performance with a 0.4 difference emerging between the two groups. Thus the group with one 'A' level or more achieved the highest median score. The difference, however, was not significant according to the Kruskal-Wallis test.

6.3 Centre

6.3.i Total Observation Score

The centre scores ranged from 3.4 to 2.7. The Kruskal-Wallis test revealed a difference between the centres for the total median observation scores (H =15.82. 8df. p=0.05); this occurred between centre C and centre D scores representing the RGN programme using the Mann-Whitney U test (W =80.5 p=0.04).

6.3.ii Physical Domain Score

The median scores ranged from 3.1 to 2.6 and there was no difference between the centres for these scores using the Kruskal-Wallis test.

6.3.iii Psychosocial Domain Score

The scores ranged from 3.6 to 2.9 and there were no differences between centres according to the Kruskal-Wallis test.

6.3.iv Professional Implications Score

The scores ranged from 3.2 to 2.5 and a difference emerged between the centres for the professional implications scores (H =21.38. 8df. p=0.01). The differences in scores were found to be significant between centre A and centre C (W =199.0 p=0.01) and centre C and centre D (W =65.5 p=0.001) representing the RGN programme and between centre B and centre I (*W* =199.0 p=0.04) representing the P2000 diploma programme using the Mann-Whitney U test.

6.3.v Promotion of Health and Teaching Skills Score

The scores ranged from 3.3 to 2.4 and the Kruskal-Wallis test revealed a significant difference between the centres for the scores regarding this element of clinical performance (*H* =20.27. 8df. p=0.01). The difference in scores was found to be significant between centre A and centre D (*W* =117.5 p=0.01) using the Mann-Whitney U test.

6.3.vi Care Management Skills and the Organisation of Workload Score

The scores ranged from 3.6 to 2.8 with the Kruskal-Wallis test revealing a significant difference between the centres for the scores in this subsection (*H* =17.40. 8df. p=0.03). The Mann-Whitney U test revealed significant differences in scores between centre C and centre D (*W* =76.5 p=0.02) representing the RGN programme and centre E and centre I (*W* =140.0 p=0.04) representing the P2000 programme.

6.3.vii Communication Skills Score

The scores ranged from 3.7 to 3.1 with the Kruskal-Wallis test revealing a difference between the scores of the centres (*H* =22.94. 8df. p=0.004). The Mann-Whitney U test revealed differences in scores between centre C and centre D (*W* =68.5 p=0.004) representing the RGN programme and centre E and centre I (*W* =150.0 p=0.01) representing the P2000 diploma programme.

6.3.viii Use of the Nursing Process in Planning Care Score

The scores ranged from 3.3 to 2.6 and there was no difference between the centres using the Kruskal-Wallis test.

6.4. Comparative Analysis of Non-Participant Observation and Different Elements of the Study

The Spearman's rank correlation coefficient test was used to explore relationships between non-participant observation data and other elements of the study. Unless otherwise stated, a one-sided test has been used.

6.4.i Comparison of Data between Simulation A: Information-Seeking and Non-Participant Observation

No significant association emerged between the total number of information-seeking units and the total observation score or the score for the 'use of the nursing process in planning care' domain of nurse performance. There was also no association between the physical domain of information seeking and the physical domain of observed clinical practice or between the psychosocial domain of information-seeking and the psychosocial domain of observed clinical practice. Use of a systematic format when information-seeking did not correlate with the total observation score or with the score for care management skills and the organisation of workload.

6.4.ii Comparison of Data between Simulation B: Care Plan and Non-Participant Observation

A significant association emerged between: a higher global care plan score and a higher total observation score: (*rs* = 0.185. $p<0.05$); a higher global care plan score and a higher observation score for use of the nursing process in planning care (*rs* =0.181. $p< 0.05$); a higher score for the psychosocial domain in the care plan and a higher observation score for the psychosocial domain (*rs* =0.227. $p<0.025$); a higher score for problem identification in the care plan and a higher total observation score (*rs* =0.192. $p<0.05$).

No association emerged between: the score for the physical domain in the care plan and the observation score for the physical domain; the score for nursing action in the care plan and total observation score; the score for problem identification in the care plan and number of omissions during observation (using a two-sided test).

6.4.iii Comparison of Data between Non-Participant Observation and the Organisation of Nursing Care

The Kruskal-Wallis test revealed a significant association between total observation score and the organisation of nursing care (patient allocation and team nursing): (H =4.05. 1df. p=0.05). However, there were no relationships between total observation scores of the different programmes and the organisation of nursing care.

6.5 Summary of Findings: Non-Participant Observation

The data were derived from 297 two-and-a-half hour non-participant observations. The three programmes of preparation were similar in their performance in three subsections of the Scale, namely: physical domain, psychosocial domain, and professional implications. Differences also emerged, however, which are noteworthy. The total median observation scores for the programmes ranged from 3.2 to 2.9 with the integrated degree programme achieving statistically significant higher scores than both the RGN and P2000 diploma programmes. This difference in total median observation scores was reflected throughout the data with the P2000 diploma programme achieving consistently lower scores in all the units of analysis. The RGN programme scores were very similar to those of the P2000 diploma programme although in some domains of nursing practice their scores were slightly higher, namely: physical domain; psychosocial domain; professional implications; care management skills and the organisation of workload; and communication skills. The integrated degree programme achieved significantly higher scores compared to those of the P2000 diploma programme in the following domains: promotion of health and teaching skills; care management skills; communication skills; and use of the nursing process in planning care. There was also a significant difference in the scores of the integrated degree and RGN programmes regarding promotion of health and teaching skills; and use of the nursing process in planning care.

No relationships emerged regarding highest educational qualification and the observation data. While there were no significant differences in the scores of the centres representing the integrated degree programme, a number of differences emerged in the scores of the RGN programme centres C and D regarding the total median; professional implications; care management skills and organisation of workload; and communication skills. There was also a difference in the scores of the RGN programme centres A and D regarding promotion of health and teaching skills. Differences in the scores emerged between the P2000 diploma programme centres E and I regarding communication skills and care management skills and organisation of workload; and between centres B and I regarding professional implications.

6.6 Discussion: Non-Participant Observation

The observation of each participant took place on three occasions at different times of the day while they were working in a hospital setting. The observational data was used to generate a total score and seven subsection scores for each participant (Refer to formula on page 60). The total median observation scores ranged from 3.2 to 2.9 with the integrated degree programme scores being significantly higher than both the RGN programme and the P2000 diploma programme scores. This difference was supported by consistent trends throughout the observation data set. Thus the highest median score was consistently achieved by the integrated degree programme group with the lowest median score being achieved by the P2000 diploma programme group regarding care delivery in the physical, psychosocial and professional implications domains. Similarly, lower median scores were gained by the P2000 diploma participants in the physical and psychosocial domains of the care plan. The total observation score and subsection scores are also reflected in the mean percentage of ratings at the different performance levels.

There was a difference between the integrated degree programme group median score and both the RGN programme group and P2000 diploma programme group scores regarding the promotion of health and teaching skills. This finding was surprising in view of the changed emphasis of the P2000 diploma curriculum compared to the RGN curriculum although both Statutory Instruments (1969, 1989) refer explicitly to the prevention of ill-health and health education. Differences were also found between the median scores for care management skills and the organisation of workload of the integrated degree programme group and those of the P2000 diploma programme, with the RGN programme group scores not being different from either those of the integrated degree programme or the P2000 diploma programme groups. It is difficult to discern what underlies this difference in performance scores as the more systematic approach noted during the information-seeking simulation was not associated with a higher score for care management skills and the organisation of workload in clinical performance. However, the P2000 diploma programme has notably less clinical placement time during which students may gain mastery of management skills in the care setting; 68 weeks as compared with 81 weeks for the RGN programme and 78 weeks for the integrated degree programme (length of clinical practice excludes sick leave). In addition, within team management/leadership was identified as a perceived confidence deficit by the majority of RGN programme participants.

A further difference in observation scores emerged between the integrated degree programme group and the P2000 diploma programme group regarding the use of communication skills in the clinical setting. Again the RGN programme group median score fell between those of the integrated degree programme group and those of the P2000 diploma programme group. The curricula appeared to give equal emphasis to the development of such skills with the RGN programmes relying heavily upon mentorship and other kinds of facilitation in clinical placements while the integrated degree programmes and the P2000 diploma programmes provided both college time as well as clinical experience for the development of communication skills. The length of the courses is also different which perhaps enables students to gain greater maturity over time especially those on the integrated degree programmes which are of 4 years duration and this maturity may well be translated into sounder communication skills in the clinical setting (Statutory Instruments No. 1675, 1969; No. 873, 1983; and No. 1456, 1989)

The integrated degree programme median score for use of the nursing process in planning care was higher than that for the RGN programme and the P2000 diploma programme. This in part may reflect the superior care planning skills of the integrated degree programme evidenced in Simulation B. It may also reflect differences in the quality of the students' clinical experiences. For example, the integrated degree programme students have supernumerary status unlike the RGN programme students which permits the careful selection of wards for placements known to facilitate the development of desired clinical skills rather than the meeting of service requirements. Equally, the large cohorts of adult branch students on P2000 diploma programmes although supernumerary does not enable the same level of selection. Further, the placements of the P2000 diploma programme contrast sharply with those of the RGN and integrated degree programmes both in overall length and in their location with a split between hospital and community settings so that the use of the nursing process in planning care may be less familiar to the P2000 diploma programme group.

The mean percentage of ratings as an alternative method of observation data analysis (refer to formula on p 60) not surprisingly reflected the trends evident in the median performance with the integrated degree programme participants scoring more ratings at the independent performance level and less ratings at the dependent performance level than the P2000 diploma programme and RGN programme participants. It is encouraging to note that less than one fifth of all ratings, excluding those for the use of the nursing process, were scored at the dependent performance level or as omitted care. The data suggest, however, that there is room for improvement in clinical performance in all domains among participants from all programmes. However, it must be remembered that this study was designed to *'compare'* the performance of participants rather than *'assess'* the performance of participants in terms of their fitness for registration. With this in mind, more than two fifths of all ratings were scored at the independent level of performance.

The differences apparent in the observation scores may have in part reflected the different educational qualifications of the students on entry into the programmes. Those participants with one or more 'A' level pass gained a slightly higher total observation score and a slightly higher score in five of the seven domains of observed clinical practice than those with GCSE passes. However, these differences were not statistically significant.

The importance of nurse education culture or institutional ethos has been raised as a key variable in nurse preparation programmes (Miles et al, 1988; Thomason, 1988; Rosenholtz, 1989; Stelzer, 1992) and therefore the course submission documents were carefully reviewed in terms of their plans for clinical skills training. The course documents all stated that the courses would aim to produce nurses with sound clinical skills and all referred to arrangements for clinical skill facilitation through mentorship and nurse teacher liaison in the clinical setting, however, it is difficult to appreciate an institutional ethos from such documentation and further, the extent to which educational plans are turned into reality. The shortcomings of a reliance upon the ward learning environment for skills training has been well documented regarding RGN programmes (e.g. Ogier, 1981; Reid, 1985; Jacka & Lewin, 1987) and White et al (1994) have highlighted some of the difficulties associated with mentorship of P2000 diploma programme students. The differences therefore between the different centre groups regarding observation scores may give some indication of the placement learning opportunities for the centres. The only difference between the total median observation scores within the programme groups emerged between two centres representing the RGN programme. This may reflect the heavy reliance that the RGN programme has upon learning in the ward environment and in consequence the disruption to this when health care provision is undergoing a period of rapid change with the introduction of skill-mix (Audit Commission, 1985; Dept of Health, 1986) and increased patient turnover (Audit Commission, 1990). Indeed, Centre C representing the RGN programme consistently achieved lower median scores in all the domains of observed clinical practice except in the promotion of health and teaching skills when Centre A had a significantly lower median score. Such findings may in part be due to the redistribution of educational resources in the light of the implementation of the P2000 diploma curriculum which in some places had meant also an amalgamation into a larger educational enterprise. This implementation may also have affected the morale amongst RGN students as some RGN programme students felt disheartened by the fact that they would be qualifying as registered nurses at the same time as large cohorts of adult branch P2000 diplomates, making their employment prospects potentially more difficult. It is clear that such a morale issue may have influenced the clinical performance of some students as they neared the end of their educational programme.

No differences between the observation scores emerged between the centres representing the integrated degree programme, however, there were differences in the observation scores regarding three domains between centres representing the P2000 diploma programme. These occurred in the professional implications, communication skills and the care management skills and the organisation of workload domains. In part these findings may reflect the experience that the diploma students had gained during their placements coupled with the shorter period of placements available within the 3 year P2000 diploma curriculum.

Most of the participants (72.6%) were observed working in wards where there was patient allocation. Interestingly, there was a difference between the median total observation scores in the different organisational settings with higher scores being associated with patient allocation in comparison with team nursing. Christman (1971) also observed differences in performance scores in different organisational settings (task allocation versus patient allocation) and she asserted that patient allocation provides a greater opportunity for the skill expression of baccalaureate nurses, although in this study no relationship was found between the performance scores of participants of the different programmes in different organisational settings. Thus it would seem that patient allocation offers greater opportunity for the nurse to demonstrate her full caring skills under the direction of a senior nurse. The exact dynamics of team nursing vary considerably, however, in this study such an organisation of nursing care was not associated with higher total nurse performance scores in the clinical setting.

There were no significant associations to be found between the data of Simulation A and the non-participant observation data. This perhaps suggests that the link between information-seeking and nurse performance in the clinical setting is complex and that the elements of the study were not sufficiently sensitive to capture the relationship. In part this is probably due to the strengths of the Nurse Performance Scale in measuring overall nurse performance in the clinical setting rather than performance in the different domains of nursing practice.

There were three significant associations to be found between Simulation B and non-participant observation data. An increasing global score for the care plan was associated with an increasing total observation score which is to be expected since the ability to develop a sound care plan is probably derived from a sound practice base. Further, a higher problem identification score was associated with a higher total observation score which suggests that problem identification is also seated in a sound clinical practice base. Not surprisingly, there was a significant association between a higher global score for the care plan and higher scores for use of the nursing process in planning care. This may be indicative of the transferability of care planning skills from a simulation situation to the clinical situation.

Chapter 7 Findings and Discussion: Interview

A sample of ninety-nine (n=99) participated in the interview and the data was explored with programme of preparation, highest educational qualification and centre.

7.1 Programme of Preparation

7.1.i Events which Participants Considered Significant to their Nursing Practice

Table 49 Programme of Preparation by Events Considered Significant to Participants' Nursing Practice

Events considered significant to participants' nursing practice	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Therapeutic influence of the practice environment	18	9	16	43
Positive influence of aspects of course	17	18	0	35
Drawing upon specific practice allocations/ clinical experiences	5	8	9	22
Non-therapeutic influence of the practice environment	6	8	7	21
Personal domain	1	1	6	8
Negative influence of aspects of course	0	5	2	7
Other or unclear	1	0	6	7
Column total	48	49	46	143
Sample size	31	34	33	98

* a multiple-response question with 2 potential answers

All participants representing the integrated degree (n=31) and P2000 diploma (n=34) programmes and 33 participants from the RGN programme identified events which they considered significant to their practice. The significance of therapeutic influences of the practice environment was the most frequent response of both the integrated degree programme (58%, n=18) and the RGN programme (49%, n=16). This category encompassed the identification of high quality nursing practice and positive role models. Typical comments were:

"Well, I think having a good mentor in the first place. Having someone that you can – if you're coming across things for the first time, you can go along with them, do something with them and they can explain exactly what they're doing and why they're doing it, so that – you know, next time, I'll know exactly what it's all about" (R63/Integrated degree participant).

"I had a mentor and she was brilliant, she was just a really good nurse and fantastic with students. She was very supportive, she was like my big role model and she had brilliant communication skills. She was about the best nurse I've ever worked with" (R49/P2000 diploma participant).

"I think I have used a lot of staff nurses as role models and senior students and tried to see maybe how they are. I think someone that I have seen as a good nurse I have tried to pick up things from them and try to do things that they have, might have done" (R2/RGN participant).

The majority of participants from the P2000 diploma programme (53%, n=18) focused upon the positive influences of aspects of their course. This was the second most frequent response for participants from the integrated degree programme (55%, n=17). No participants from the RGN programme highlighted this category.

Typical comments reflecting this category were:

"I think the main thing is the way we're taught to think- like in a number of ways- we're taught to work things out from the first principles- so rather than just learning conditions, diseases off-pat you sort of think about what's causing them and then work out what the

symptoms might be and what the treatment might be. So that you don't necessarily have to know every disease and condition. So like we did alot of physiology and biochemistry and that sort of thing" (R80/Integrated degree participant).

"A lot of the theory that we did in the beginning – I know we spent 10 months in college, but I think that a lot of that theory that we did I brought through, and then when we went to the wards and worked more in with the practice, we brought in the theory, so the way of looking at things was different, and bringing in research" (R20/P2000 diploma participant).

7.1.ii Rationale for Events which Participants Considered Significant to their Nursing Practice

Table 50 Programme of Preparation by Rationale for Events which Participants Considered Significant to their Nursing Practice

Rationale for events which participants considered significant to their practice	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Acquisition and application of new knowledge and skills to enhance role performance	17	18	10	45
Modelling clinical performance on exemplars of good practice	16	6	12	34
Increased awareness of the biopsychosocial domains of the nurse's role	7	12	8	27
Professional growth and awareness	5	5	6	16
Nature of the learning/ practice environment	1	6	3	10
Confidence-building experiences	2	2	2	6
Personal development	0	4	2	6
Other or unclear	0	1	4	5
Column total	48	54	47	149
Sample size	31	34	33	98

* a multiple-response question with 2 potential answers

Participants from the integrated degree programme discussed events considered significant to their nursing practice in terms of the acquisition and application of new knowledge and skills to enhance role performance (55%, n=17) and modelling performance on exemplary practice (52%, n=16).

Typical comments which reflect modelling performance on exemplary practice were:

"Basically from how my peers perform in terms of like, the role models that you have on the wards, in terms of mentors and things. I mean, that's one of the most significant ways for influencing how you work. If you've seen sort of like a lot of bad practice and things – you want to think 'oh, I never want to be her – I never want to perform in such a way'. ... And also like really good practice as well and good role models and how they go about prioritising care and how they deliver the care, and sort of like – what that – you know, what they perceive as being their priorities that's been quite significant to me at the end of four years" (R74/Integrated degree participant).

"She was just a very good role model, and I think – um – because I identified – I identified a good role model on that ward, I tend now when I'm – to look for – nurses on a ward and think – that's what I'd aspire to be like – that's what I want – although now, I look more at more senior nurses and think – you know, that's what I want to be like when I'm a senior Staff Nurse or a Sister, or whatever, but – I always – I kind of – look – identify with people that – um – you know, that I want to be like" (R49/P2000 diploma participant).

"... observing other people and mainly senior staff or senior students definitely, I always looked up to them and the staff nurses. But I suppose also observing the negative aspects of other nurses and trying not to do what they had done" (R13/RGN participant).

The most frequent response from participants of the P2000 diploma programme, similar to the integrated degree programme, was the acquisition and application of new knowledge and skills to enhance role performance (53%, n=18). Typical examples from this category were reference to the theoretical aspects of participants' course content, for example, interpersonal/ communication skills, psychosocial aspects of health and illness and nursing issues such as health care ethics. Over a third of participants from the P2000 diploma programme discussed the significance of events considered to influence their practice in terms of increased awareness of the biopsychosocial domains of the nurse role. The two most frequent responses identified by participants from the RGN programme were modelling of performance on exemplars of good practice (36%, n=12) and the acquisition and application of knowledge and skills to enhance role performance (30.3%, n=10).

7.1.iii Events which Participants Considered to Demonstrate High Quality Nursing Practice

All participants from the integrated degree programme (n=31) and the majority of participants representing the P2000 diploma programme (n=32) and RGN programme (n=31) identified examples of what they considered to reflect high quality nursing practice. Most of the participants from all three programmes identified an encapsulated incident, that is, a specific event with a clearly discernible beginning and end. The majority of participants from the three programmes focused upon procedural skill/practice in the description of their selected example of high quality nursing practice.

7.1.iv Focus of High Quality Nursing Practice Identified by Participants

Table 51 Programme of Preparation by Focus of High Quality Nursing Practice

Focus of high quality nursing practice	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Professional Focus				
Effective/ appropriate/ safe clinical performance	3	9	10	22
Demonstration of professional behaviour	5	9	6	20
Effective professional relationships with nursing colleagues/ other health care professionals	5	1	4	10
Professional focus but uncodable beyond this	1	1	1	3
Professional knowledge development to enhance performance	0	0	1	1
Client Focus				
Therapeutic psychological/ emotional care of clients/others	7	7	6	20
Promotion of individualised/ client-centred care	8	5	3	16
Professional and client focus	2	0	0	2
Non-response	0	2	3	5
Sample size	31	32	31	94

As exemplars of high quality nursing practice 48% (n=15) participants from the integrated degree programme discussed client-focused issues and 45% (n=14) discussed professional-focused issues. The majority of participants from both the P2000 diploma programme (63%, n=20) and the RGN programme (71%, n=22) highlighted issues with a professional focus.

7.1.v Levels of Explanation Regarding High Quality Nursing Practice

Table 52 Programme of Preparation by Levels of Explanation Regarding High Quality Nursing Practice

Levels of explanation regarding high quality nursing practice	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Confirmation of own beliefs/ values/principles regarding professional practice	14	18	20	52
Some explanation of significance of example to own practice	6	6	2	14
No explanation of significance of example to professional practice demonstrated	4	3	7	14
Some explanation of significance of example to general professional practice	3	2	2	7
Explanation of significance of example to own practice	2	1	0	3
Confirmation of profession's beliefs/values/principles regarding practice	1	2	0	3
Uncodable	1	0	0	1
Sample size	31	32	31	94

Overall the majority of participants' explanation of high quality nursing practice demonstrated confirmation of their existing beliefs/ values/ principles about professional practice. For the purposes of chi-square analysis the levels of explanation were grouped into three categories, namely:

i. Explanation of significance of example of high quality nursing practice to own/ general professional practice.

ii. Explanation demonstrating confirmation of the practitioner's/ profession's existing beliefs/ values/ principles about professional practice.

iii. Significance of example to professional practices not explained.

No difference emerged between the programmes of preparation for levels of explanation.

7.1.vi Events which Participants Considered to Demonstrate Low Quality Nursing Practice

All participants from the integrated degree programme (n=31) and the majority from the P2000 diploma and RGN programmes identified examples of what they considered to reflect low quality nursing practice. The majority of participants described an encapsulated incident. and focused upon procedural skill/practice issues.

7.1.vii Focus of Low Quality Nursing Practice Identified by Participants

Table 53 Programme of Preparation by Focus of Low Quality Nursing Practice

Focus of low quality nursing practice	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Ineffective/inappropriate/ unsafe clinical practice	14	19	16	49
Inadequate/ no consideration of the client as a biopsychosocial being	10	6	8	24
Ineffective professional relationship with nursing colleagues/ other health care professionals	3	4	4	11
Poor/no demonstration of professional behaviour	2	4	4	10
Unclear	2	0	1	3
Sample size	31	33	33	97

For the three programmes of preparation the two most frequent descriptions of low quality nursing practice focused upon ineffective/inappropriate/ unsafe clinical practice and inadequate/ no consideration of the client as a biopsychosocial being.

7.1.vii Participants' Perceptions of Factors Contributing to Low Quality Nursing Practice

Table 54 Programme of Preparation by Perceived Factors Contributing to Low Quality Nursing Practice

Perceptions of factors contributing to low quality nursing practice	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Negative personal attributes/ poor philosophy underpinning practice	6	10	7	23
Lack of professional knowledge/ skill	5	6	10	21
Non-therapeutic influences of practice environment	10	7	2	19
None known	3	6	7	16
Other or unclear	5	1	5	11
Sample size	29	30	31	90

The most frequent category of factors contributing to low quality nursing practice for participants from the integrated degree programme was non-therapeutic influences of the practice environment, for example, inadequate manpower resources (35%, n=10). A third of participants (n=10) from the P2000 diploma programme focused upon negative personal attributes/poor philosophy underpinning practice and 32% (n=10) of participants from the RGN programme highlighted lack of knowledge/skill as a possible contributing factor to low quality nursing practice.

7.1.ix Strategies Identified by Participants to Address Low Quality Nursing Practice

Table 55 Programme of Preparation by Strategies Identified to Address Low Quality Nursing Practice

Identified strategies/ resources to address low quality nursing practice	Integrated degree programme	P2000 diploma programme	RGN programme	Row total
Provision of educational input	10	3	9	22
Discussion with colleagues in the practice environment	3	10	8	21
Consider alternative practice	6	10	4	20
Ensuring a therapeutic environment	4	3	3	10
Improving communication strategies	2	2	2	6
Reporting practitioner	0	0	2	2
Personal skills development	0	0	1	1
Other or unclear	2	4	4	10
Sample size	27	32	33	92

The most frequent response from participants representing the integrated degree (37%, n=10) and RGN (27%, n=9) programmes regarding strategies to address examples of low quality nursing practice was the provision of educational input. This category encompassed continuing professional education and informal teaching. Participants from the P2000 diploma programme highlighted discussion with nursing colleagues in the practice environment (31%, n=10) as well as considering alternative practice (31%, n=10).

7.1.x Levels of Explanation Regarding Low Quality Nursing Practice

Table 56 Programme of Preparation by Levels of Explanation Regarding Low Quality Nursing Practice

Levels of explanation regarding low quality nursing practice	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Confirmation of own beliefs/ values/principles re professional practice	14	15	13	42
No explanation of significance of example demonstrated	4	7	6	17
Some explanation of significance of example to own practice	7	0	4	11
Some explanation of significance of example to general professional practice	1	4	6	11
Explanation of significance of example to own practice	2	3	2	7
Confirmation of profession's beliefs/ values/principles regarding practice	1	3	2	6
Uncodable	2	1	0	3
Sample size	31	33	33	97

For the majority of participants their explanation of low quality nursing practice demonstrated confirmation of their existing beliefs/ values/ principles about professional practice. For the purposes of chi-square analysis the levels of explanation were grouped into three categories, namely:

i. Explanation of significance of example of low quality nursing practice to own/ general professional practice.

ii. Explanation demonstrating confirmation of the practitioner's/ profession's existing beliefs/ values/ principles about professional practice.

iii. Significance of example to professional practices not explained.

No difference emerged between the three programmes of preparation for levels of explanation regarding low quality nursing practice.

7.1.xi Issues which Participants Considered Important to their Nursing Practice

Table 57 Programme of Preparation by Issues Considered Important to Participants' Nursing Practice

Focus of important practice areas	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Client Focus				
Developing/ maintaining a therapeutic nurse-client relationship	18	13	13	44
Caring for clients as biopsychosocial beings	6	12	9	27
Meeting the physical/ comfort needs of clients	1	5	5	11
Demonstrating a professional relationship with clients/ relatives/ significant others	2	2	2	6
Professional focus				
Drawing upon professional knowledge to inform practice	9	14	17	40
Effective professional relationships with nursing colleagues/ other health care professionals	12	13	14	39
Effective/ appropriate/ safe clinical practice	13	8	7	28
Awareness of knowledge and/or practice limitations	3	3	3	9
Personal domain	2	5	2	9
Adequate environmental resources	1	0	4	5
Other	0	3	2	5
Column total	67	78	78	223
Sample size	31	34	34	99

* a multiple-response question with 3 potential answers

All participants from the three programmes of preparation identified issues which they considered important to their nursing practice. The majority of participants from the integrated degree programme (58%, n=18) highlighted developing/maintaining a therapeutic nurse-client relationship as an important practice issue.

Typical comments for this category were:

"Well – one of the reasons I chose to come to this gynaecology ward was that I'm interested in counselling and communication – that's – for me that's one thing I can develop upon – being a nurse with interpersonal skills, that I can allow myself to sit down and talk to patients in case they need me. Especially in this kind of ward environment" (R86/Integrated degree participant)

"I think nurses tend to forget that because they come to the hospital everyday it has become such a routine thing and something that is not very frightening but to somebody who has never been in hospital before, you know suddenly they're taken out of their familiar surrounding and they don't know anybody and they don't know what they can do and what they can't do" (R24/P2000 diploma participant).

"Um – I think good communication. ... you need to understand your patients' needs, and you need to communicate effectively with them so that you can ascertain what their needs are and how these are going to be – how you're going to nurse them" (R39/RGN participant).

Responses from participants representing the P2000 diploma programme and RGN programme were distributed across several categories. The most frequent response for the P2000 diploma programme focused upon drawing upon professional knowledge to inform practice (41%, n=14). This was also the most frequent response identified by participants from the RGN programme (50%, n=17). Typical comments reflecting this category were:

"I think research is important – I mean, obviously I don't know the research on every subject, but certain things – you do know, you do try to stick to and implement. ... you shouldn't really do something without knowing why it's being done or with a good reason that it works or it is actually valuable to some extent " (R80/Integrated degree participant).

"Um – increasing my knowledge. The more knowledge I have, the more knowledge I can pass on to others (R54/P2000 diploma participant).

"Having responsibility towards my learning objectives. You can't just stay static, you have to keep on developing your own skills because if you don't move on with current practice then you'll be outdated" (R45/RGN participant).

7.1.xii Rationale for Issues Considered Important to Participants' Nursing Practice

Table 58 Programme of Preparation by Rationale for Issues Considered Important to Participants' Practice

Rationale for issues considered important to participants' practice	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Therapeutic value for client/ relatives/ significant others	19	27	24	70
Enhances effective role performance	20	25	24	69
Recognising the client as a biopsychosocial being	5	3	6	14
Effective professional relationships with nursing colleagues/ other health care professionals	5	1	5	11
Demonstration of professional behaviour	2	1	0	3
Personal domain	0	0	2	2
Other	0	1	3	4
Uncodable	0	2	1	3
Column total	51	60	65	176
Sample size	31	34	34	99-

* a multiple-response question with 3 potential answers

For the three programmes of preparation issues considered important to participants' practice were discussed from a professional perspective (that is, enhancing effective role performance) as well as a client perspective (that is, of therapeutic benefit for the client).

7.1.xiii Participants' Views of their Practice Strengths

Table 59 Programme of Preparation by Identified Practice Strengths

Focus of identified practice strengths	Integrated degree programme	P2000 diploma programme	RGN programme	Row total
Client focus				
Developing a therapeutic relationship with clients	14	13	11	38
Social communication with clients	3	6	4	13
Client assessment/ information gathering	3	5	0	8
Caring for clients as biopsychosocial beings	1	2	4	7
Client education	3	1	1	5
Meeting the physical/ comfort needs of clients	0	2	3	5
Skills in caring for a particular client group	1	0	1	2
Professional role focus				
Personal attributes/ interpersonal skills	11	14	16	41
Effective/ appropriate/ safe clinical practice	8	7	11	26
Effective professional relationships with nursing colleagues/ other health care professionals	9	4	9	22
Developing/ maintaining knowledge practice skills	4	7	3	14
Uncodable	0	0	1	1
Column total	57	61	64	182
Sample size	31	34	33	98

* a multiple-response question with 3 potential answers

Overall 98 participants responded to this question and responses were distributed over a range of categories. The most frequent response from participants representing the integrated degree programme focused upon the ability to develop a therapeutic relationship with clients (45%, n=14). In contrast, 41% of participants from the P2000 diploma programme (n=14) and 49% of RGN programme participants (n=16) discussed perceived practice strengths in terms of personal attributes/ interpersonal skills.

7.1.xiv Participants' Views Regarding Facilitators of Perceived Practice Strengths

Table 60 Programme of Preparation by Identified Facilitators of Perceived Practice Strengths

Facilitators of identified practice strengths	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Drawing upon the philosophy/ content of programme of preparation	16	18	7	41
Personal domain	9	13	16	38
Learning through practice over time	7	4	12	23
Drawing upon the expertise of practitioners	6	5	9	20
Confidence building experiences	6	5	9	20
Life experiences	7	7	5	19
Other	0	1	2	3
Uncodable	1	0	1	2
Column total	52	53	61	166
Sample size	31	34	33	98

* a multiple-response question with 3 potential answers

Just over half of the integrated degree programme participants (52%, n=16) and the P2000 diploma programme participants (53%, n=18) highlighted drawing upon the philosophy/ content of their programmes as a facilitator of their perceived practice strengths. In contrast this response was highlighted by just over a fifth of the RGN programme participants.

The most frequent response for participants from the RGN programme (49%, n=16) was the influence of factors within the personal domain, for example, one's personal philosophy and the influence of family/ significant others.

7.1.xv Participants' Perceived Confidence Deficits

Table 61 Programme of Preparation by Perceived Confidence Deficits

Perceived confidence deficits	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Nursing skills performance	13	17	10	40
Management/ leadership within team	7	10	15	32
Cognitive domain	4	7	9	20
Anxieties regarding unfamiliar experiences	3	7	3	13
Professional relationships with nursing colleagues/ other health care professionals	4	3	3	10
Management of direct client care	3	5	1	9
Personal domain	5	0	2	7
Skills in caring for a particular client group	1	1	1	3
Other	2	0	1	3
Column total	42	50	45	137
Sample size	31	33	33	97

* a multiple-response question with two potential answers

Participants from the integrated degree programme (42%, n=13) and P2000 diploma programme (52%, n=17) most frequently identified perceived confidence deficits within the nursing skills domain including psychomotor and affective skills. The most frequent response for participants representing the RGN programme was within team management/leadership (46%, n=15).

7.1.xvi Strategies Identified by Participants to Address Perceived Confidence Deficits

Table 62 Programme of Preparation by Strategies Identified to Address Perceived Confidence Deficits

Identified strategies to address perceived confidence deficits	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Maximising student learning opportunities in the practice environment	10	15	17	42
Improvement over time	12	7	7	26
Modification of course content	1	8	8	17
Additional practice placements and/or allocations of longer duration	1	11	1	13
Self-directed learning	3	3	3	9
Personal development	5	1	2	8
Supervision as a staff nurse	0	2	1	3
Continuing professional education	0	1	1	2
Unclear	1	1	1	3
Column total	33	49	41	123
Sample size	29	32	30	91

* a multiple-response question with 2 potential answers

The two most frequent identified strategies for overcoming perceived confidence deficits for participants from the integrated degree programme were improvement over time (41%, n=12) and maximising learning opportunities in the practice environment (35%, n=10). Participants from the P2000 diploma programme suggested maximising learning opportunities in the practice setting (47%, n=15) and additional clinical allocations and/or allocations of longer duration (35%, n=11). Responses highlighting the latter category included:

"I think we could have had more time, I mean, I think we should have been- maybe in our CFP not so much supernumerary. I mean I personally worked full shifts and whatever but you're still only there for three days a week and you sort of- it's really split up, your getting to know the patients and knowing the ward and that. And you're only there for short placements as well, like 5 to 7 weeks or something... It was very disjointed. So we couldn't have gained experience in our first year, it's only been in our third year that we've - so I think we needed longer placements, maybe earlier in our training would have helped" (R90/P2000 diploma participant).

"It's just this placement, the past 2 or 3 months, while I've been on here where I've actually gained experience practically. At the moment I'm left in charge of my team and I feel, I mean most- I'm happy enough, most things I can handle- the majority of things I'm happy enough dealing with. So I think if I had another maybe extra month or two I would be more confident - practical. So maybe if they'd added a little bit onto the course at the end of it just for that little bit more experience" (R50/P2000 diploma participant).

In the RGN programme the most frequent identified strategy for overcoming perceived confidence deficits was maximising learning opportunities in the practice setting (57%, n=17). Over a quarter of participants from the RGN and P2000 programmes identified modification of course content as a potential strategy to overcome perceived confidence deficits. Exemplars reflecting this category were:

"I mean they are really trying to get away from these practical assessments on the ward, you know, aseptic techniques and drug rounds and stuff like that, but I think it would have helped if they had been more specific about practical" (R24/P2000 diploma participant).

"I think some of the ways that the study days were designed, a lot more could have been spent on anatomy and physiology" (R39/RGN participant).

7.1.xvii Significant Persons Considered to have Influenced Participants' Development/ Practice as Nurses

Table 63 Programme of Preparation by Significant Persons Considered to have Influenced Participants' Development as Nurses

Significant persons identified by participants	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Nurse practitioner (institutional setting)	16	18	8	52
Teachers from the educational setting	13	3	2	18
Mentor in practice environment	4	6	8	18
Nurse practitioner (non-institutional setting)	0	4	0	4
Unqualified nursing staff	0	1	2	3
Others	3	3	3	9
Column total	36	35	23	104
Sample size	29	32	30	91

* a multiple-response question with 2 potential answers

For each programme of preparation the majority of participants identified nurse practitioners within the institutional setting as key persons in their development as nurses. More than two fifths of participants from the integrated degree programme identified teachers from the educational setting as key persons in their development.

The majority of participants in each programme of preparation identified significant persons who were considered to have had a positive influence on their development as nurses.

7.1.xviii Participants' Rationale for Identifying Significant Persons

Table 64 Programme of Preparation by Rationale for Identifying Significant Persons

Rationale for identifying significant persons	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Models of high quality nursing practice	16	19	14	49
Provision of support/ supervision/teaching	15	12	13	40
Facilitative in the development of clinical skills	1	1	2	4
Facilitative in the development of personal skills	0	0	2	2
Models of low quality nursing practice	1	0	0	1
Other	3	3	2	8
Column total	36	35	33	104
Sample size	29	32	30	91

* a multiple-response question with 2 potential answers

For the three programmes of preparation the two most frequently cited rationale for identifying significant persons were models of high quality nursing practice and the provision of support/ supervision/ teaching. A typical comment reflecting the former was:

"... she was a fantastic leader, she really had good leadership qualities and I'd like to be like her. She involved herself, she didn't get caught up in the paperwork... she still had time for the patients, students and time to run the ward and she kept the morale really good and she was just very knowledgeable in her field" (R33/RGN programme participant).

Typical comments for the category entitled: provision of support/supervision/teaching were:
"She took time to teach me lots... kept me under her wing... she always made me feel that I knew more than perhaps I did by letting me try things out, taking me through it or showing me... making me feel part of the team" (R23/P2000 diploma participant).

"I think just because they always come round, they're very supportive and they are there, obviously they are not part of the ward staff, so they come along and if you're not sure of something they'll go through it with you and do it with you" (R63/Integrated degree participant).

7.1.xix Participants' Perceptions of Factors Contributing to Significant Person's Approach

Table 65 Programme of Preparation by Perceptions of Factors Contributing to Significant Persons' Approach

Factors considered to contribute to significant person's approach	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Positive personal attributes/ philosophy underpinning practice	11	20	14	45
High level of knowledge and/or skill	12	9	8	29
Professional education profile	2	1	2	5
Other	1	1	3	4
Column total	26	31	27	83
Sample size	19	27	22	90

* multiple-response question with 2 potential answers

The majority of participants in the integrated degree programme (63.2%, n=12) identified a high level of knowledge and/ or skill as factors which may have contributed to the significant person's approach. For the majority of participants from the P2000 diploma programme and RGN programme positive personal attributes/ philosophy underpinning practice was the most frequently cited response.

7.1.xx Additional Issues Identified by Participants

Table 66 Programme of Preparation by Additional Issues

Additional Issues	**Integrated degree programme**	**P2000 diploma programme**	**RGN programme**	**Row total**
Non-response	19	6	24	59
Suggestions regarding modifications to programme of preparation	3	8	9	20
Views related to the practice environment	5	3	0	8
Positive views regarding programme of preparation	2	4	1	7
Other comments	2	3	0	5
Sample size	31	34	34	99

Just over one third of participants from the integrated degree programme (n=12) offered additional comments the majority of which focused upon issues related to the practice environment. This category included issues such as inadequate student support/mentorship offered by practitioners, and perceived ambivalence/negativism towards students from integrated degree and P2000 diploma programmes.

Exemplars reflecting this category were:

"The fact that people have no idea what a degree nurse is. .... Staff nurses especially are very unaware of what we have done and what we haven't done. And I don't think in a lot of cases they actually use our potential um – as much as they could. And I think a part of that is the supernumerary status – people don't really know what supernumerary is. It depends on where you go. On some wards, if you're a supernumerary student, you're hardly allowed to do anything, and then you go to another ward and supernumerary doesn't exist – or if

they're short-staffed you're not supernumerary, and if they've got enough staff you are supernumerary. I think that sort of thing. But the fact that people – degree nurses – what a nursing degree is, isn't very widely known. Everyone knows about Project 2000 but people don't know that nursing degrees have been going for years and years and years" (R85/Integrated degree participant).

"I found the prejudice very difficult to deal with - the fact that we were wearing a different uniform we were treated so differently and the fact that we were supernumerary and worked different hours" (R24/P2000 diploma participant).

Just over half of the participants from the P2000 diploma programme (n=18) highlighted additional issues the majority of which focused upon suggestions regarding modification to the course. Similarly, the majority of participants from the RGN programme who responded to this question offered suggestions regarding modification to the course. This category encompassed issues regarding course structure, course content, and inadequate support from teachers within the educational setting.

Exemplars reflective of this category included:

"The gaps between the placements have been quite long ... a year between our senior ward and our management placement – I mean all the second year was in hospital, which was alright. But it's just quite a big chunk from going from a third year to a fourth year" (R79/Integrated degree participant).

"Getting more practical experience- that's a necessity, if nothing else. Knowledge is fine and good but I need the practical bits to work my theory upon. I feel that this course- that's the one thing it's lacking. Because we are kept in college and the community for the first 18 months we are at least 12 months behind the original standard of the old RGNs and you can see it hands down... we catch up within 6 months of qualification but I feel on the ward it's really noticeable, that we don't have enough practical knowledge when we start and we're continually striving to catch up with everybody else" (R54/P2000 diploma participant).

"I don't feel that alot of our study time has been well structured, basically alot of what we have learned is what we have taken upon ourselves to look-up and learn... I feel that if we had had a programme that had more college time then we might have got on a bit better in

that respect. I think the tutors would have seen our time as precious and structured things because our learning time is precious.." (R47/RGN participant).

Additional comments which highlighted positive views regarding programmes of preparation included:

"I'd just like to say that I think the course is absolutely superb - and I don't know whether we would have sort of thought of that maybe two years ago – um – one or two years ago – but at the end of it, I've really, really, really enjoyed it. I think ours is good in the sense of that we actually get a very good continuity of care. We do get these very long eight-week blocks, in which time you actually get to develop a very good relationship with the ward staff, with the actual patients and actually get to sort of see exactly how things go on " (R65/Integrated degree participant).

"I think that the course can operate well and the old RGNs- I feel that both trainings have alot to offer the people that we care for and I think that if we work in conjunction we can have an unbeatable team. With the old RGNs I feel that they have got a great deal to offer P2000 students in their knowledge, they're so knowledgeable and their approach to nursing is something that we can learn alot from. We have the theory- we can exchange the theory for practice" (R54/P2000 diploma participant).

"... it's taught me about politics, it's taught me about what's going on in nursing, it's taught me about my role as a nurse – it's taught me about my role in the community as a person, as a professional, which I think is very important. Um – I don't just feel like I'm a nurse any more – I really do feel that I'm a professional and I do have something to offer. And I do still feel *that I've finished my training but I haven't finished my learning" (R37/RGN participant).*

7.2 Highest Educational Qualification

Frequency tables are presented in Appendix XVI.

7.2.i Participants' Views of their Practice Strengths

Developing a therapeutic relationship with clients/others was identified as a practice strength by the majority of participants with 4-9 GCSEs. Just under a half of those with one or more 'A' levels identified strengths within the personal attributes/interpersonal skills domain.

7.2.ii Participants' Views Regarding Facilitators of Perceived Practice Strengths

Drawing upon the philosophy/content of the education programme was identified most frequently by participants from each group as a facilitator of perceived practice strengths.

7.2.iii Participants' Perceived Confidence Deficits

For participants in each group management issues and nursing skills performance were identified most frequently as perceived confidence deficits.

7.2.iv Strategies Identified by Participants to Address Perceived Confidence Deficits

The majority of participants in each group identified maximising learning opportunities in the practice environment as a strategy for overcoming perceived confidence deficits.

7.2.v Significant Persons Considered to have Influenced Participants' Development/ Practice as Nurses

For each group the majority of participants identified nurse practitioners within the institution as key persons in their development as nurses. More than two fifths of participants with one or more 'A' levels identified teachers within the educational setting as key persons in their development.

7.3 Centre

Detailed analysis of interview data for the centres was not possible due to the limited data set. Frequency tables are presented in Appendix XVI.

7.4 Comparative Analysis of Interview and Other Elements of the Study

7.4.i Non-Participant Observation and Interview

There was no association between total observation score and levels of explanation regarding examples of high quality nursing practice according to the Kruskal-Wallis test. In contrast, the Kruskal-Wallis test revealed a significant association between total observation score and levels of explanation regarding examples of low quality nursing practice (H =12.73. 2df. p=0.002).

7.4.ii Interview and Simulation A: Information Seeking

Using the Kruskal-Wallis test no associations emerged between levels of explanation regarding high and low quality nursing practice when explored with the following data. total number of information-seeking units; total number of citations for rationale when information-seeking; and use of a systematic format when information-seeking.

7.4.iii Interview and Simulation B: Care Plan

Using the Kruskal-Wallis test, no associations emerged between levels of explanation regarding high and low quality nursing practice when explored with the following data: global care plan score; problem identification score in the care plan; and rationale score in the care plan.

7.5 Summary of findings: Interview

The data were derived from a single interview with each study participant and, while there were many similarities in the responses of all the participants, some differences also emerged. Thus most of the participants described incidents regarding procedural skill or practice for both exemplars of high and low quality nursing practice and the majority of participants confirmed their own values or beliefs regarding professional practice. Similarly, the importance of maximising learning opportunities in the practice environment was acknowledged by many participants.

The integrated degree programme participants viewed both their courses and the practice environment as having a positive influence upon their development as nurses. The client focus of most integrated degree programme participants was evident in the interview data with the development or maintenance of a therapeutic nurse-client relationship being identified as an important practice issue and also as a perceived practice strength. This reflects Clause 5 of the Code of Professional Conduct (UKCC, 1992a) which stipulates that the registered nurse should: "work in an open and co-operative manner with patients, clients and their families, foster their independence and recognise and respect their involvement in the planning and delivery of care'. The integrated degree programme participants identified their perceived confidence deficits as lying in the nursing skills domain which included psychomotor and affective skills and over two-fifths thought that their confidence deficits would improve over time. While nurse practitioners were identified as key persons in their development as nurses, unlike the other programme participants, more than two-fifths of the integrated degree participants identified teachers from the educational setting as key persons in their development. Like the other programme participants most integrated degree participants viewed these key persons as being models of high-quality nursing practice and providing support for learning based upon a positive personal philosophy underpinning professional practice.

The P2000 diploma programme participants viewed their courses as having a positive influence upon their development as nurses, however, over a third of the participants identified more practice experience and a quarter of the participants identified the modification of course content as potential strategies to overcome their perceived confidence deficits. A greater professional focus rather than client focus was evident in the interview data. The P2000 diploma programme participants identified their perceived practice strengths as lying in the personal skills domain as well as the development of/ maintenance of a therapeutic nurse-client relationship and their perceived confidence deficits lay within the nursing skills domain which include psychomotor and affective skills. Nurses in practice were key persons to the development of participants as nurses and were valued as models of high-quality nursing practice.

The RGN programme participants viewed the practice environment as having a positive influence upon their development as nurses while no RGN programme participants identified their courses as having a positive influence. Like the P2000 diploma programme participants, a greater professional focus was evident in the interview data with the importance of drawing upon professional knowledge to inform practice being highlighted by half the RGN programme sample. The RGN programme participants also identified their perceived practice strengths in relation to a professional role focus, however, more than a quarter of the RGN programme participants identified the development or maintenance of a therapeutic nurse-client relationship as a perceived practice strength. Unlike the other programmes, the most frequently identified confidence deficit for the RGN programme participants was management or leadership within the team. Nurses in practice were key persons in the development of participants as nurses and were valued both as models of high-quality nursing practice and for facilitating the learning process. The desirability of modification of the RGN course content was raised by more than a quarter of the participants.

7.6 Discussion of Interview Findings

The final element of the study consisted of the semi-structured interviews which explored the following areas: events considered significant to the participants' nursing practice; events considered to demonstrate high and low quality nursing care; issues considered important to their practice; the participants' views of their strengths regarding practice; and conversely practice areas in which they felt less confident; and finally key persons who had influenced the participants' development as nurses. There were many similarities in the responses of all participants which is to be expected as they had all been socialised into nursing albeit by different programmes of preparation, however, some differences emerged and these will be discussed.

The integrated degree programme and P2000 diploma programme participants felt that their courses had had a positive influence regarding their development of nursing practice. In contrast, no RGN programme participants expressed a positive view about their course. The reduction in educational resourcing of the RGN courses with the development of the replacement P2000 diploma courses may have influenced the felt experience of the students on the RGN programme. Consistent with previous research (Smith, 1988; Wilson & Startup, 1991, 1992; Orton et al, 1993), the therapeutic influence of the practice environment upon the development of participants' nursing practice was considered positively. In particular, this was highlighted by the RGN programme and the integrated degree programme participants which may in part reflect the more extensive clinical placements experienced by these groups in comparison with the P2000 diploma programme participants. Opportunities for the acquisition and application of new knowledge and skills for the development of nursing practice were highly valued by most participants with modelling of performance upon exemplars of good practice being raised by over half the integrated degree programme group and more than a third of the RGN programme group.

Attempts to explore the participants' views of high and low quality nursing practice utilised a development of Flanagan's (1954) Critical Incident Technique developed by Redfern et al (1994) and nearly all the participants were able to describe examples which focused mainly upon procedural skill or practice. More P2000 diploma programme and RGN programme participants raised professional-focused issues regarding high-quality nursing practice than the integrated degree programme participants, nearly half of whom raised client-focused issues. The focus of the issues raised regarding low-quality nursing practice were very similar across the three programmes of preparation. The ambition that this exploration of views of nursing would yield data regarding the participants' abilities at critical and reflective thinking was not realised with most participants explaining the examples in terms of confirmation of their own beliefs regarding professional practice rather than the significance of the example in terms of the enhancement of the participants' professional practice. In light of these findings a more detailed and more sensitive method would need to be developed to realise a better understanding of critical and reflective thinking.

A variety of issues were raised by the participants which they considered important to their nursing practice and there were some interesting trends. For example, the majority of integrated degree programme participants (58.1%) raised the development and maintenance of a therapeutic nurse-client relationship as an important issue while the most frequent response of both the RGN programme and P2000 diploma programme participants was the "drawing upon professional knowledge to inform practice". For all three programmes of preparation these issues were seen as enhancing both effective role performance and client well-being.

Exploration of the participants' views of their perceived practice strengths yielded a large range of responses with the focus of the integrated degree programme participants being again upon the client with the nurse-client relationship being identified by 45.2% of the participants as one of their strengths. In contrast, the most frequent response among the RGN programme and P2000 diploma programme participants emphasised a professional role focus with 41.2% of participants in those programmes identifying their practice strengths in the domain of personal attributes or interpersonal skills. For the majority of both the integrated degree group and the P2000 diploma group, the philosophy or content of their programme was identified as a facilitator of their perceived practice strength which was in contrast to the RGN programme participants. The most frequent facilitator for the RGN programme fell within the personal domain and included such things as personal philosophy and the influence of family or significant others. The low regard for their course held by the RGN programme participants in part probably reflected not only the criticisms that have been made of the programme design (Ogier, 1981; Orton, 1981, Fretwell, 1982, 1985; Gott, 1983, 1984; Reid, 1985, Jacka & Lewin, 1987) but also their experience of the redistribution of educational resource toward P2000 diploma programmes coupled with the period of rapid change in the clinical setting. In contrast neither the integrated degree nor P2000 diploma groups had experienced a loss of teacher resource during the period of their programmes.

Exploration of the participants' views of their perceived confidence deficits yielded a variety of responses. The most frequently identified confidence deficits for both the P2000 diploma programme (51.5%) and the integrated degree programme (41.9%) lay within the nursing skills domain which included psychomotor and affective skills. The most frequent response of the RGN programme participants was a confidence deficit regarding management or leadership within the team. The P2000 diploma programme is organised within a more limited clinical placement timescale which may not perhaps enable both the acquisition of nursing skills and their practice especially if there are mentorship difficulties (White et al, 1994). The final clinical placement of the integrated degree programme occurs after completion of the final degree examinations and therefore in part their lack of confidence in nursing skills performance may reflect a return to practice after a break for academic examinations. The more extensive placement experience of the RGN programme participants may have been reflected in their perceived lack of confidence in a management or leadership role which may be regarded as a role development once mastery of nursing skills has been attained.

The two most frequent identified strategies for overcoming perceived confidence deficits among the P2000 programme participants were maximising the learning opportunities in the practice setting (46.9%), more clinical placements (34.5%) and modification of course content (25%) which again probably reflects the shorter clinical experience available in the P2000 diploma curriculum. Two-fifths of the integrated degree programme participants thought that some of their perceived confidence deficits would improve over time and just over a third of the group viewed the maximisation of learning opportunities in the practice environment as another strategy for improving their confidence deficits. The majority of the RGN programme also identified the maximisation of learning opportunities in the practice setting as a strategy for overcoming their confidence deficits. Indeed, the value placed upon continued learning in the practice setting by many of the participants highlights the potential value of good preceptorship schemes for newly-qualified nurses and also the importance of a continuing professional education ethos in health care settings.

The study findings have supported previous research which highlighted the importance of clinical placements and models of high-quality nursing practice in facilitating the development of professional skills (Melia, 1987; Smith, 1987, 1988; Davies, 1993). The majority of participants identified nurse practitioners in the institution setting as key persons in their development as nurses. This view confirms the importance of clinical placements in facilitating the development of professional skills and in particular the high value students place on having the opportunity to work with models of high-quality nursing practice with a sound personal philosophy underpinning that practice and who provide support in the clinical setting (Lelean, 1973; Orton, 1981; Fretwell, 1982; Marson, 1982; Ogier, 1982; Smith, 1987; Brown, 1989; Orton et al, 1993). In contrast to the other groups, more than two-fifths of the integrated degree programme participants also identified teachers from the education setting as key persons in their development as nurses, which perhaps reflects the success of designated clinical teachers and course lecturers in facilitating learning in the clinical setting and their ability to draw upon a high level of knowledge and skill when working with students. The majority of participants identified significant persons as models of high quality nursing practice which echoes previous findings (Wilson & Startup, 1991, 1992; Campbell et al, 1994). The important attributes of the significant persons were considered to be a sound personal philosophy underpinning practice and supporting students in the clinical setting which re-emphasises the impact of key facilitators in the professional development of students.

Only one association emerged between the non-participant observation and interview data which was an association between higher total observation scores and a more sophisticated level of explanation regarding an example of low-quality nursing practice. This was interesting because this element of the interview was designed to explore participants' abilities at critical and reflective thinking and would seem to suggest that those participants who demonstrated more critical thinking and reflection were also those who had sounder performance in the clinical setting. However, it is acknowledged that the development of a more sensitive method would be needed to realise a better understanding of critical and reflective thinking.

There were no associations to be found when the interview data were explored with the information-seeking and care planning data sets. This perhaps suggests that the link between information-seeking approaches and problem-solving and the issues explored in the interviews is complex and the study design was not sufficiently sensitive to capture the relationships.

Chapter 8 Epilogue

8.1 Conclusions

The relative absence of research examining outcomes of nurse education programmes is perhaps a reflection of the difficulties inherent in pursuing such work. Among the few studies comparing the performance of nurses from different educational programmes, American studies predominate and seem to concentrate upon rather specific aspects of practice or attitude (McCloskey, 1981; Bircumshaw, 1989a). Further, their samples were generally very small with methodological details lacking in the published papers and the differences between the groups were directly attributed to the method of preparation rather than other factors such as previous educational attainments (Welches et al, 1974; Bullough & Sparks, 1975; Gray et al, 1977). The British literature is more limited with three studies eliciting the views of senior nurses towards graduate RGN nurses as compared with conventional RGN nurses (House, 1977; O' Brien, 1984; Bircumshaw, 1989b) and two studies comparing aspects of performance (Crow, 1980; Bircumshaw & Chapman, 1988).

This research attempted to develop one approach to a comparison of outcomes and it is clear that the method adopted could be further refined. However, the data collected provide some indication of similarities and differences between the outcomes of the different programmes of preparation albeit from a limited sample size. Although potential confounding variables which included the infancy of the P2000 diploma courses as compared with the other programme courses and the redistribution of educational resources away from the established RGN courses makes the interpretation of the findings necessarily cautious. Indeed, the tremendous number of changes in both the health care and nurse education settings as outlined in Section 1.3 were a considerable challenge to all the participants.

All the participants gained much from their programmes of preparation and were able to demonstrate their nursing skills within the context of the study, however, the data suggested that some participants could refine their skills further. The information-seeking of all participants covered a range of data requests and some differences emerged. The care plan simulation appeared to present a realistic scenario to the participants and yielded some interesting data. While in many respects the programme data sets were similar, the longer clinical experience of the integrated degree and RGN programmes may have facilitated superior care planning skills.

Performance in the clinical setting is clearly crucial to sound nursing practice and although time-consuming, the non-participant observation data was an important element of the study as it provided the opportunity to document actual-situated behaviour of participants in their practice. The similarities of the performance scores of the RGN and P2000 diploma programmes is noteworthy, however, there was a consistent trend regarding the strength of the integrated degree programme in providing a sound foundation for nursing practice.

There were many similarities in the views expressed by the participants across the three programmes of preparation. They all recognised the importance of maximising learning opportunities in the practice setting and had valued the contribution of nurses in practice to their professional development as a means of overcoming their perceived confidence deficits which makes the implementation of the UKCC's (1990) recommendation of preceptorship schemes for all newly-qualified nurses imperative. Indeed, such schemes have the potential to enhance the professional base of novice practitioners as they embark on their careers and continue a process of lifelong learning which is a requirement of the Code of Professional Conduct (UKCC, 1992a Clause 3). The welcome introduction of clinical supervision to nursing practice will further enhance long-term professional development (Butterworth & Faugier, 1992).

It would appear that the integrated degree programme participants benefited from their courses and were able to demonstrate their skills in both the simulated and clinical setting. Of particular note was their higher median global score in Simulation B and their higher total median observation score. It is interesting that more of the integrated degree programme participants espoused a client-focus rather than a professional-focus to their practice and that they particularly valued the contribution of teachers from the education setting in their development as nurses.

The RGN programme participants demonstrated their extensive clinical practice base and were clearly much influenced by their larger clinical exposure. For example, in Simulation A RGN programme participants made significantly more requests for data regarding the immediate nurse's role and in Simulation B they gained high median global scores for their care plans.

The similarities of the RGN programme and P2000 diploma programme participants was most evident in the non-participant observation data set although in certain domains of nursing practice, there was a trend indicating that the RGN programme participants were more able to demonstrate their skills. However, the P2000 diploma programme is based upon a new curriculum which will no doubt be refined over time as areas for potential improvement become apparent. It was interesting that the P2000 diploma programme participants identified nursing skills as an area of perceived confidence deficit and suggested continued learning in the practice setting and more clinical placements as potential strategies for overcoming such deficits. Both the RGN programme and P2000 diploma programme participants recommended course modification which may well improve the felt experience of students.

8.2 Methodological Reflections

The different elements of the study have contributed to the empirical knowledge base, however, further refinement of method is needed.

Simulation A provided a method of investigating information-seeking behaviour, however, its lack of a pre-determined structure did not permit in-depth analysis of information-seeking strategies. Nonetheless, this lack of structure did not constrain the participants' individual styles and provided an important element to the study design without unduly increasing the burden of participation. An investigation of information-seeking behaviour deserves a study in its own right and further refinement of method or exploration of the Verbal Protocol technique (Jones, 1989) should be considered.

Problem-solving is a complex process and is undoubtedly difficult to measure. In this context, Simulation B attempted to explore a problem-solving situation commonly experienced by nurses in practice. There was evidence of some transferability of skills between a simulated and a clinical setting which suggests moderate concurrent validity. The promising Cronbach's alpha coefficient (r =0.63) suggests that further refinement and testing has the potential to improve the validity of the instrument, however, the difficulties associated with the selection of a suitable validity indicator has been a constant theme in the simulation literature (McGuire & Babbot, 1967; Dincher & Stidger, 1976; Holzemer, 1986).

The development and later abandonment of measurement tools for clinical performance is a consistent theme in the American literature and Wood (1972) in particular noted the difficulties in such work. She was impressed by the work of Slater (1967) and its additional strength as the basis for Qualpacs commended it to the research team. The favourable Cronbach's alpha coefficient (r = 0.93) of the total instrument was encouraging, however, the subsection alphas indicated that further refinement may improve the strength of the instrument as a tool for the measurement of nurse performance in different domains of practice. The Nurse Performance Scale would appear to provide the basis for the development of a tool for use in the United Kingdom and a study which takes such a development forward is now in progress.

The semi-structured interview provided a useful insight into factors which may have influenced the participants' professional development as nurses. However, more work is required to elicit a good understanding of reflective and critical thinking. Indeed, the complexity of exploring cognitive skills demands a research programme of its own.

A study of this size generates an enormous amount of data which poses a considerable challenge for analysis. The importance of sound statistical advice was critical to ensure the full exploration of all relationships within the data. Unfortunately the data did not lend itself to general linear modelling owing in part to the small sample size. However, the consistency of the data gives some reassurance that Type 2 errors did not account for the statistically significant findings (Blalock, 1960; Cohen, 1992).

Consideration should be given to the commissioning of a large study which seeks to compare outcomes of 4 year and 3 year integrated degree and diploma RN programmes. Sample size should be great enough to permit greater robustness of statistical analysis and the potential for log linear modelling.

8.3 End Note

The study took place at a time of great change for nursing. Economic imperatives have transformed the context of health care practice in the United Kingdom coupled with the introduction of market principles to patient care (Savage & Robins, 1990; Ham, 1992). Nursing in the clinical setting has experienced a number of repercussions as a consequence which are described elsewhere (Owens & Glennerster, 1990; Carr-Hill et al, 1992) and have included an aggressive introduction of skill-mix, increased patient turnover and frequent relocation of clinical services with the closure of hospital beds. At the same time nurse education has experienced a period of unprecedented change culminating in the amalgamation of small nurse education institutions and their integration into institutions of higher education with consequences for both students and educational staff. The study data has indicated that there are a number of issues which need addressing if quality nurse education is to be maintained.

Figure 28 Epilogue Highlights

CONTEXT OF RESEARCH

- Far-reaching changes in health service delivery
- Unprecedented changes in nurse education (institutional mergers and establishment of new courses)

RGN Programme	**P2000 Diploma Programme**	**Integrated Degree Programme**
• Demonstrated their extensive clinical practice base and were much influenced by their larger clinical exposure. • Made significantly more requests for data regarding the immediate nurse's role. • High median global care plan scores. • The similarities of the RGN programme and P2000 diploma programme participants was most evident in the observation data set although in certain domains of nursing practice there was a trend indicating that the RGN programme participants were more able to demonstrate their skills. • Recommended course modification.	• Identified nursing skills as an area of perceived confidence deficit. • Suggested continued learning in the practice setting and more clinical placements as potential strategies for overcoming such deficits. • Recommended course modification. • Observed performance similar to RGN programme.	• Higher median global care plan score obtained. • Higher global observation score obtained. • More integrated degree programme participants espoused a client focus rather than a professional focus to their practice. • Contribution of teachers from the education setting was valued in their development as nurses.

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Appendix I Simulation A: Instructions for Participants

Overhead transparency

An elderly woman is admitted to a medical ward. Please note on the sheet provided any information, including the rationale, which you would require before planning this client's care.

Time allocated- 10 minutes.

Appendix II Simulation A: Information Sheet

Appendix III Simulation A: Information-Seeking Coding Guidelines

Focus

i. Biographical -for example, name age address.

ii. Functional-data re. functional ability level/activity level prior to admission.

iii Physical- physical assessment data.

iv. Medical team details-for example. admitting consultant /medical team..

v. Type of admission- booked/ emergency.

vi. Reason for admission- present history.

vii. Past medical history.

viii Social history- home/ family status.

ix. Immediate health needs- reference to immediate treatment, drugs, investigations required.

Systematic format

Data requests are presented in a logical/sequential order with a degree of apparent coherence.

Data requests are presented in a haphazard and unstructured format, lacking in coherence and sequential ordering.

Type of model

To code model, for example, Roper et al's (1990) Activities of Living and Orem's (1985) self-care model, there needs to be a specific reference to the named model or the presentation of sufficient detail to make the model recognisable as such. If a generic reference is made to the Activities of Living model then code as follows:

Urological
Respiratory
Temperature
Gastrointestinal

Musculoskeletal

Communication

Rest and sleep

Occupational status

Recreational interests

Medical model

Data requests are ordered according to a strict systems approach, incorporating present and past medical details.

Assessment details

Code as assessment if general reference made to 'assess' accompanied by indicative details.

Rationale

Throughout code only if reasoned/explicit exposition given for the information requested. If a global rationale is given then code throughout if the rationale is detailed and comprehensive.

Assessment tool

To include reference to such items as pressure sore risk assessment, for example, Norton (1962), Waterlow (1987) and pain assessment tools such as the visual analogue scale and numerical rating scale.

Family and significant others

Assessment includes reference to involvement /role of family/significant others.

Physical assessment data

Code only if specific reference made to 'physical assessment'.

Cardiovascular data

Assessment includes pulse and blood pressure. If reference is made to vital signs, code temperature, pulse ('reference to' under cardiovascular) and respiratory rate ('reference to' under respiration).

Urological data

Assessment includes reference to at least two aspects related to the client's urological status, such as urological problems, urinalysis.

Respiratory data

Assessment includes at least two aspects related to respiratory status such as reference to breathing difficulties, respiratory rate and pattern.

Gastrointestinal data

Assessment includes at least two areas from the following: eating, drinking and elimination, along with accompanying details.

Musculoskeletal data

Assessment includes details regarding mobility, such as degree of assistance required/aids used.

Communication data

Assessment includes such areas as information regarding speech deficits/language problems.

Rest and sleep

Assessment includes issues such as usual time retires to bed, number of hours sleep and night sedation.

Pain/discomfort

Assessment includes details regarding pain/discomfort, for example, onset, location, type, duration, medication. If reference made to pain assessment tool also code assessment tool.

Skin integrity

Assessment includes such issues as reference to skin condition and pressure sore risk.

Functional ability

Assessment includes information regarding capabilities i.e. whether or not normal activities are affected by condition. To include reference to at least two areas of every day living.

Maintaining/promoting independence

Assessment includes reference to information regarding the maintenance/promotion of independent functioning, for example, client's usual strategies for dealing with health care deficits and perceived needs regarding maintaining/promoting independence.

Cognitive function

Assessment includes such issues as level of orientation/confusion and degree of risk.

Psychological status

Assessment includes such areas as reference to mental health status, past medical history for example, depressive illness/other.

Anxiety

Code anxieties other than those related to illness and response to hospitalisation, such as concerns regarding dependents, home situation.

Present history

Code as assessment when reference is made to the details of the client's present medical history such as onset of symptoms, duration, subsequent effects.

Social assessment data

Reference to social context of the client's life such as single living/cohabitation.

Accommodation

Assessment includes details of accommodation such as stairs, access, housing problems and needs.

Dependents

Assessment includes such details as the nature of dependents/role and areas of need.

Other services

To include any additional services such as voluntary agencies.

Reference to 'social services' in general, code as meals on wheels and home help.

Reference to 'social and health services', code as meals on wheels, home help and district nurse.

Discharge planning

To include reference to information required to assist in future discharge planning.

Spiritual data

Assessment includes such details as religious beliefs, church affiliation, special dietary requirements and needs.

Immediate nurses role

Reference to information regarding any immediate nursing interventions required, such as preparation for investigative procedures.

Immediate medical role

Reference to the immediate medical role includes such issues as immediate drug therapy, investigations and other interventions.

Multifocal approach

Data requests need to relate to at least three of the following domains: physical, psychological, social and spiritual.

Appendix IV Simulation A: Information-Seeking Code Book

(Case identifier and 101 information-seeking units listed)

Columns	Variable	Label	
1	CASE IDENTIFIER	CASENO	VALUE
2	PARTICIPATION	PARTIC	1=YES 0=NO
3	FOCUS	FOCUS	1=BIOGRAPHICAL 2=FUNCTIONAL 3=PHYSICAL 4=MED.TEAM DETAILS 5=TYPE OF ADMISSION 6=REASON FOR ADMISSION DIAGNOSTIC DETAILS 7=PAST MEDICAL HISTORY. 8=SOCIAL HISTORY 9=IMMEDIATE HEALTH NEEDS
4	SYSTEMATIC	SYSTEM	1=LOGICAL/ ORDERLY SEQUENCE 0=HAPHAZARD/ UNSTRUCTURED
5	MODEL	MODEL	1=PRESENT 0=ABSENT
6	TYPE	TYPE	1=ROPER 2=OREM 3=MEDICAL 4=OTHER
7	ASSESSMENT TOOL	TOOL	1=PRESENT 0=ABSENT
8	NAME	NAME	1=PRESENT 0=ABSENT
9	RATIONALE	RA	1=PRESENT 0=ABSENT
10	AGE	AGE	1=PRESENT 0=ABSENT
11	RATIONALE	RB	1=PRESENT 0=ABSENT

12	NEXT OF KIN	NEXTKIN	1=PRESENT 0=ABSENT
13	RATIONALE	RC	1=PRESENT 0=ABSENT
14	ADDRESS (CLIENT).	ADDRESS	1=PRESENT 0=ABSENT
15	RATIONALE	RD	1=PRESENT 0=ABSENT
16	GENERAL PRACTITIONER	GP	1=PRESENT 0=ABSENT
17	RATIONALE	RE	1=PRESENT 0=ABSENT
18	CONSULTANT	CONSULT	1=PRESENT 0=ABSENT
19	RATIONALE	RF	1=PRESENT 0=ABSENT
20	FAMILY/ SIGNIFICANT OTHERS.	FAMSIG	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
21	RATIONALE	RH	1=PRESENT 0=ABSENT
22	PHYSICAL ASSESSMENT DATA	PHYSASS	1=REFERENCE TO 0=ABSENT
23	RATIONALE	RI	1=PRESENT 0=ABSENT
24	CARDIOVASCULAR ASSESSMENT DATA	CARVASC	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
25	RATIONALE	RJ	1=PRESENT 0=ABSENT
26	NEUROLOGICAL ASSESSMENT DATA	NEURLOG	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
27	RATIONALE	RK	1=PRESENT 0=ABSENT

28	UROLOGICAL ASSESSMENT DATA	URO	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
29	RATIONALE	RL	1=PRESENT 0=ABSENT
30	RESPIRATORY ASSESSMENT DATA	RESP	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
31	RATIONALE	RM	1=PRESENT 0=ABSENT
32	TEMPERATURE	TEMP	1=PRESENT 0=ABSENT
33	RATIONALE	RN	1=PRESENT 0=ABSENT
34	GASTROINTESTINAL ASSESSMENT DATA	GASTINT	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
35	RATIONALE	RO	1=PRESENT 0=ABSENT
36	WEIGHT	WEIGHT	1=PRESENT 0=ABSENT
37	RATIONALE	RP	1=PRESENT 0=ABSENT
38	MUSCULO-SKELETAL ASSESSMENT DATA	MUSCSKEL	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
39	RATIONALE	RQ	1=PRESENT 0=ABSENT
40	VISION	VISION	1=REFERENCE TO 0=ABSENT
41	RATIONALE	RR	1=PRESENT 0=ABSENT
42	HEARING	HEAR	1=REFERENCE TO 0=ABSENT
43	RATIONALE	RS	1=PRESENT 0=ABSENT

44	COMMUNICATION	COMM	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
45	RATIONALE	RT	1=PRESENT 0=ABSENT
46	REST/SLEEP	RESTSLEP	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
47	RATIONALE	RU	1=PRESENT 0=ABSENT
48	PAIN/DISCOMFORT	PADIS	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
49	RATIONALE	RV	1=PRESENT 0=ABSENT
50	SKIN INTEGRITY	SKINTEG	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
51	RATIONALE	RW	1=PRESENT 0=ABSENT
52	FUNCTIONAL ABILITY	FUNCTAB	1=REFERENCE TO 2=ASSESSMENT OF 0=ABSENT
53	RATIONALE	RX	1=PRESENT 0=ABSENT
54	PROMOTING/ MAINTAINING INDEPENDENCE	IND	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
55	RATIONALE	RY	1=PRESENT 0=ABSENT
56	COGNITIVE FUNCTION	COGFUNC	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
57	RATIONALE	RZ	1=PRESENT 0=ABSENT

58	PSYCHOLOGICAL STATUS	PSYCH	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
59	RATIONALE	AR	1=PRESENT 0=ABSENT
60	RESPONSE TO ILLNESS/ HOSPITALISATION	RESPILL	1=REFERENCE TO 0=ABSENT
61	RATIONALE	BR	1=PRESENT 0=ABSENT
62	OTHER ANXIETIES	ANXOTHER	1=REFERENCE TO 0=ABSENT
63	RATIONALE	CR	1=PRESENT 0=ABSENT
64	PAST MEDICAL HISTORY	PAMEHIS	1=REFERENCE TO 0=ABSENT
65	RATIONALE	DR	1=PRESENT 0=ABSENT
66	PREVIOUS ADMISSION	PREVADM	1=REFERENCE TO 0=ABSENT
67	RATIONALE	ER	1=PRESENT 0=ABSENT
68	PRESENT HISTORY	PRESHIS	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
69	RATIONALE	FR	1=PRESENT 0=ABSENT
70	DRUG REGIME	DRUGS	1=REFERENCE TO 0=ABSENT
71	RATIONALE	GR	1=REFERENCE TO 0=ABSENT
72	ALLERGIES	ALLERG	1=REFERENCE TO 0=ABSENT
73	RATIONALE	HR	1=PRESENT 0=ABSENT

74	SOCIAL ASSESSMENT DATA	SOCIAL	1=REFERENCE TO 0=ABSENT
75	RATIONALE	IR	1=PRESENT 0=ABSENT
76	ACCOMMODATION	ACCOM	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
77	RATIONALE	JR	1=PRESENT 0=ABSENT
78	DEPENDENTS	DEPEND	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
79	RATIONALE	KR	1=PRESENT 0=ABSENT
80	PETS	PETS	1=REFERENCE TO 0=ABSENT
81	RATIONALE	LR	1=REFERENCE TO 0=ABSENT
82	MEALS ON WHEELS	MEALWHEL	1=REFERENCE TO 0=ABSENT
83	RATIONALE	MR	1=PRESENT 0=ABSENT
84	HOMEHELP	HOMHELP	1=REFERENCE TO 0=ABSENT
85	RATIONALE	NR	1=PRESENT 0=ABSENT
86	DISTRICT NURSE	DISTNURS	1=REFERENCE TO 0=ABSENT
87	RATIONALE	OR	1=PRESENT 0=ABSENT
88	OTHER SERVICES	OTHSERV	1=REFERENCE TO 0=ABSENT
89	RATIONALE	PR	1=PRESENT 0=ABSENT

90	DISCHARGE PLANNING	DISCH	1=REFERENCE TO 0=ABSENT
91	RATIONALE	QR	1=PRESENT 0=ABSENT
92	OCCUPATIONAL STATUS	OCCSTAT	1=REFERENCE TO 0=ABSENT
93	RATIONALE	RR	1=PRESENT 0=ABSENT
94	RECREATIONAL INTERESTS	RECINT	1=REFERENCE TO 0=ABSENT
95	RATIONALE	SR	1=PRESENT 0=ABSENT
96	SPIRITUAL ASSESSMENT DATA	SPIRIT	1=REFERENCE TO 2=ASSESSMENT 0=ABSENT
97	RATIONALE	TR	1=PRESENT 0=ABSENT
98	IMMEDIATE NURSES ROLE	IMNRO	1=REFERENCE TO 0=ABSENT
99	RATIONALE	UR	1=PRESENT 0=ABSENT
100	IMMEDIATE MEDICAL ROLE	IMMROL	1=REFERENCE TO 0=ABSENT
101	RATIONALE	VR	1=PRESENT 0=ABSENT
102	MULTIFOCAL APPROACH	MULT	1=PRESENT 0=ABSENT

Appendix V Simulation B: Script for Video-Tape Scenario

Nurse:	Good morning Mrs Bell, I'm Susan Fairfax, (shakes hands and sits on left hand side of client).
Client	Oh, good morning. I'm Jane (laughs nervously).
Nurse	If you don't mind Jane I would like to ask you a few questions which will help me plan your care while you are here with us.
Client	"Mmm.....I see".
Nurse	If I could check a few personal details with you first that would be useful (Holding form and going through biographical details). Your date of birth, 3rd February 1921?
Client	Yes, I'm seventy one.
Nurse	Are you still living in London? (points to form).
Client	Yes, I've lived here for twenty years.
Nurse	Do you live with anyone else Jane?
Client	Yes, with Thomas my husband. (Nurse makes a note on form).
Nurse	Did your husband bring you in this morning?
Client	No, I had to get a taxi, Thomas is a diabetic. His eyesight is poor and his walking isn't so good, he doesn't go out and about.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

SPECIMEN

Nurse Does that make things difficult at home?

Client Not really, normally we manage. We're organised. I check his insulin twice a day, do the cooking and shopping. He will be alright today and then my daughter is coming down for two days but after that! Its going to be a problem.

Nurse Have you managed to make any arrangements for when your daughter leaves?

Client No, it all happened so suddenly.

Nurse Yes, I understand. You do the cooking at home then Jane?

Client Yes.

Nurse (Makes note on form). Is that a problem?

Client No, not really, I like cooking and I enjoy my food although I've had a little problem with my dentures. I had all my teeth out years ago and lately these dentures seem too big. I love my food especially vegetables but it sometimes makes eating them difficult. You see, they slip a bit and I've got sores on my bottom gum; like you get when your shoes don't fit, only small, but quite painful.

Nurse "Mmm". How many sores?

Client Oh, about three I think.

SPECIMEN

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

Nurse	Yes, it's important that I look at those once we get you settled in this morning.
Nurse	Have you seen your daughter recently?
Client	No, we haven't seen her since Christmas, she lives up North. I've two grandchildren. We usually see them about twice a year but she'll be down first thing tomorrow.
Nurse	A short visit?
Client	Yes, it's a long way to drive and a friend could only have the children for a few days. She'll be a great help though when she arrives.
Nurse	Are you retired?
Client	(Leaning forward as if she cannot hear) Yes. I was a sales assistant up in town. I'm so sorry but I've got poor hearing in my left ear and wear a hearing aid, it may be better if we change places.
Nurse	Oh, I do apologise, I didn't realise, let me move round (moves herself to the other side). Is that better?
Client	Yes, much better (smiles).
Nurse	How long have you had your hearing aid?
Client	Two years I think. It runs on batteries, occasionally it goes on the blink.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

SPECIMEN

Nurse (Makes a note on the form). I'm sorry if it seems rather a lot of questions all at once, but I've a few more to ask if you don't mind.

Client Do go ahead.

Nurse Are you a member of any Church at present?

Client The Church of England I suppose although I only seem to go to church for funerals now! (laughs).

Nurse Would you like to be more actively involved in the church?

Client No, it's not for me.

Nurse I seem to be just the same. I only go to church occasionally. If I could now ask you a few questions about your health Jane that would be helpful.

Client Of course.

Nurse Have you been in hospital before?

Client Yes, I had a hysterectomy for fibroids (pause) It was about 20 years ago, it's hard to remember, it was such a long time ago. I was so happy when it was over though, never felt better.

Nurse That must have been a good feeling. Which hospital were you in?

pain any more.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

SPECIMEN

Client This one, when it was the old infirmary. George Ward - everything looks so very different now. (Looking around).

Nurse Yes, there have been lots of changes. I find it difficult keeping up with them myself. Have you had any other problems since?

Client I've had osteoarthritis for the last ten years. My knees have been pretty bad I've been taking aspirin for ages but it doesn't seem to take the edge off the

Nurse Can you describe the pain Jane?

Client It's difficult, like a nagging ache.

Nurse I see, does the pain affect your walking?

Client Yes, it comes on after I've walked a few yards.

Nurse Are any other joints painful?

Client No, only my poor old knees. I normally walk with a stick but I've left it at home today. It was such a rush this morning. I don't know how I'll cope without it.

Nurse Can I be of any help?

Client No, thank you, my daughter is coming tomorrow.

Nurse "Mmm". Tell me Jane, how many aspirin do you take?

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

SPECIMEN

Client Oh, about four a day. I seem to be always buying them. I think I keep my local chemist in business. (laughs)

Nurse (Makes a note) Do you have any stairs at home Jane?

Client Yes, we're on the second floor and there's no lift. It's such a worry. The flat is very nice, it's warm and modern but it's the stairs. I'm beginning to find them difficult to manage. It would be much better for both of us if we were on the ground floor. It would make life so much easier for the two of us. I don't know what to do for the best (Nervous movement of hands).

Nurse If you like I could try and look into the situation during your stay here.

Client You're very kind. We would so much appreciate any help.

Nurse Have you had any other health problems ?

Client Oh yes, in 1989 my doctor told me that my heart wasn't working properly and that my blood pressure was too high and put me on these tablets. (Finds bottles in bag).

Nurse Was that Dr. Jordan ?

Client Yes.(Puts glasses on to check tablets).

Nurse (Looking at the bottle) Slow K. You take one tablet a day?

Client Yes. I also take these (shows bottle to nurse)

Nurse (Reads label) Digoxin 62.5mcg. One a day?

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

SPECIMEN

Client Yes, in the morning, every day.

Nurse Do you take any other tablets ?

Client Oh yes. (Looks in bag and brings out two bottles. Shows one to nurse).

Nurse (Reading label) Frusemide, 40mg one a day.

Client Yes, first thing in the morning. I take these for my knees (gives bottle to nurse).

Nurse (Reading label) Ibuprofen, 200mg three times a day.

Client I've been on those for about six months now.

Nurse I see. Would you mind if I took these off you and put them in a cupboard for safekeeping?

Client No, I've had my dose for today.

Nurse Tell me then Jane, what brought you in today?

Client That's what's worrying me, I'm not really sure why I'm here today. I've felt a little dizzy on and off for 3 months. One day about a week ago I felt really strange and fell over and hurt myself. I'm always tripping up in the flat with all the rugs around the place. Anyway, Thomas made such a fuss, going on about it and insisting I saw my doctor who sent me here. He said my blood pressure was alright but that my tablets might want looking at.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

SPECIMEN

Nurse	Yes, your standing blood pressure earlier was $^{120}/_{90}$, your pulse was 78 and your respiratory rate 18. Your weight was 60 kg.
Client	Yes, I've been the same weight for years.
Nurse	What do you feel might be causing these falls Jane?
Client	I don't know, it's a mystery to me.
Nurse	Yes, it needs looking into.
Nurse	I've only a few more questions I need to ask you now. Do you use glasses for reading or any other purpose?
Client	Yes, I wear glasses for reading.
Nurse	Do you have any problems going to the toilet ?
Client	I haven't been to the toilet for four days now. I normally manage to go after the first cup of tea in the morning.
Nurse	Do you take any laxatives when you're at home ?
Client	Yes, senokot, 4 tablets every night. I've been taking them for years.
Nurse	Any other problems?
Client	Well, about an hour after I've had my tablets in the morning I feel the need to go to the toilet, its urgent. I sometimes don't get there in time and then I wet myself.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

SPECIMEN

Nurse	That must be awkward. How often has that happened?
Client	Oh, not quite every day, occasionally.
Nurse	That must be difficult. It's something which perhaps needs looking into. Just one final thing, it would be useful to know a little about your sleeping pattern, any difficulties there?
Client	No. Thomas says I sleep very well (laughs).
Nurse	That's fortunate (makes a note in form) I'm sorry if I seem to have asked you rather a lot of questions. Is there anything else that you think we ought to know or anything you would like to ask me?
Client	No, (pause) I don't think so, not at the moment.
Nurse	Would you like a drink ?
Client	Yes, I would love a cup of tea.
Nurse	I'll just go and get you one. After tea I will show you around the ward. (Smiles).

The end.

SPECIMEN

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

Appendix VI Simulation B: Instructions for Participants

Overhead transparency 1

SPECIMEN

Admission Interview

The following video is of a nurse-client admission interview. As the nurse with full responsibility for both planning and managing the care of this client please note any relevant information on the nursing history sheet.

Overhead transparency 2

Care Plan

Using the from provided please now formulate a plan of care for this client.

Time allocated- 30 minutes.

- Evaluation criteria are the same as criteria for evaluating care.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

Appendix VII **Simulation B: Blank Care Plan**

SPECIMEN

	PROBLEM		AIMS/GOALS		NURSING ACTION		RATIONALE FOR NURSING ACTION		EVALUATION CRITERIA

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

Appendix VIII **Simulation B: Model Care Plan**

SPECIMEN

	Problems		Aims/Goals		Nursing Action	Rationale	Evaluation Criteria
1	Dizzy episodes possibly due to medication, potentially linked with falls. Jane is undergoing treatment for heart failure and secondary hypertension. . - Recurrent dizzy episodes over last 3 months. - Fall one week prior to admission. - On admission: Standing BP 120/90. P.76. R.18. Wt.65kg. -Fluid intake: likes tea.	(A) (B) (C) (D)	Jane states no longer feels dizzy. Safe environment is maintained. Jane does not fall. Blood pressure within normal range: 120/90 - 170/90. Jane's cardiac output within normal limits and has no complications: P. 60-80 R. 18-22 Weight: no increase Fluid intake: 1.5-2 litres daily. Ankles: No sign of swelling. Timescale: - 5 days.		(1). Record and monitor any dizzy episodes. Observe:-Time of onset. -Duration. -Any precipitating factors. -Pulse. -Blood pressure. (2). Explain to Jane the need to report any dizzy episodes to nursing staff. (3). Ensure Jane understands use of nurse call bell and has access to one at all times. (4). Ask Jane to inform nursing staff if she leaves the ward. (5). In the event of a fall ensure hospital accident protocol followed. (6). 4 hourly lying/standing blood pressure. (7). Monitor pulse. Four hourly. Ensure taken for one minute. If below 60 check apical pulse and notify medical staff. (8). Monitor respiratory rate/pattern 4 hourly. (9). Monitor fluid intake daily. (10). Monitor fluid output daily. (11). Daily weight. (12). Monitor ankles for swelling.	Digoxin, frusemide and ibuprofen may all cause dizziness. (Laurence and Bennett 1987; Govoni et al 1990). To help reduce the risk of falls. Postural hypotension may be causing dizzy episodes. (Brunner and Suddarth 1989). Bradycardia is a potential side effect of digoxin therapy. (Laurence and Bennett 1987 ; McKenry and Salerno 1989 ; Karb et al 1989). Pulmonary oedema may occur secondary to heart failure. (Hinchliff and Montague 1988). Effective way of monitoring diuresis if client prescribed diuretics, as well as giving indication of degree of fluid retention. (Beland and Passos 1981).	Feedback/Observation Documentation- -Jane's level of dizziness. -Understanding of medication regime. -Effects/side effects of revised medication. -Incidence of falling: details of event, related activities/context. -Absence of signs of heart failure. -Recorded BP readings. -Recorded pulse, respiratory rate, weight. -Fluid intake/output.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

	Problems		Aims/Goals		Nursing Action	Rationale	Evaluation Criteria
2	Jane is unsure of the reason for her hospital admission. - Jane is "not really sure" why she has been admitted. - The dizzy episodes are a "mystery" to Jane. - Last hospital admission 20 years ago. - Jane states "everything looks so different now"	(A) (B)	Jane is able to state accurately the reason for admission. Jane states feels more familiar with ward/hospital environment. Timescale - 1-2 days.	2	(1). Provide Jane with opportunity to ask questions. (2). Explain potential link between certain drugs and dizzy episodes. (3). Reiterate the need to investigate any such dizzy episodes. (4). Orientate Jane to ward and hospital environment.	The well established link between uncertainty and anxiety. Potential negative effects of anxiety on an individuals health status. (Feist and Brannon 1988; Sarafino 1990). Marked changes in hospital environment. Over 20 year period since last admission.	Feedback- Jane states reason for admission. Observation- Degree of orientation.
3	Jane is anxious about how her husband will cope in her absence. - Mr. Bell is insulin dependent diabetic and housebound. - Insulin administered by Jane twice a day. - Jane does the shopping and cooking. - No services at present. - Daughter to visit and able to help for 2 days.	(A) (B) (C)	Jane states feels less anxious. Mr. Bell is not at risk. Mr Bell receives services as required. Timescale - 2 days.	3	(1). Discuss with Jane how much her daughter will be able to do during her two day stay. (2). Discuss possible arrangements: - District nurse to check - Mr Bell's insulin daily. - Daily meals on wheels (diabetic). - Home help. - Arrange accordingly.	Jane's daughter is visiting for just two days after which Mr. Bell will be on his own. Service input therefore required.	Feedback - Jane states feels less anxious about Mr Bell. Services referral documentation.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

S P E C I M E N

	Problems		Aims/Goals		Nursing Action	Rationale	Evaluation Criteria
4	Painful knees due to osteoarthritis. - Experiences a "nagging ache" in knees on walking a few yards. - Walk with aid of a stick (left at home). - Difficulty managing stairs. - Prescribed ibuprofen (200mg three times a day). - Purchases aspirin (takes four a day).	(A) (B)	Jane states is pain free at rest and walking. Jane demonstrates safe, steady gait on flat/stairs. Timescale - 3 days.	4	(1). Liaise with Jane regarding views on pain management. (2). Assess pain: - Type. - Onset. - Duration. - Range of movement in knee joints. (3). Liaise with medical staff for review of analgesia. (4). Analgesia as prescribed and monitor effectiveness using pain chart. (5). Telephone daughter - check when she is to visit and ask if she could bring walking stick. (6). Liaise with physiotherapy department for loan of walking stick for interim period. (7). Physiotherapy referral for assessment of mobility. (8). Assist Jane to mobilise with aid of walking stick.	**Baseline needed from which to measure effectiveness of pain relief.** **On admission Jane was taking ibuprofen and aspirin which provided inadequate relief. Both drugs have potentially adverse side effects including gastric irritation. Effective prescribed analgesia will reduce the need to purchase over the counter drugs. (Kofoed 1986 ; Cartwright and Smith 1988 ; Shulman 1989).** **Use of pain assessment, scale eg. painometer enables greater precision in monitoring efficacy of pain relief and may enhance 'partnership' aspect of nurse/client interaction. (Fordham 1988; McCaffery and Beebe 1989; Berker and Hughes 1990 ; Brearley 1990).** **Jane's confidence possibly affected following fall, therefore may need support to help maintain optimum mobility. Ability to manage stairs needs addressing urgently if safely at home is to maintained.**	Feedback- Jane states is pain free. Reflected in pain assessment tool. Observation/ documentation of: - Comfort level. - Demeanour when mobilising/at rest. - Mobility level.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

SPECIMEN

	Problems		Aims/Goals		Nursing Action	Rationale	Evaluation Criteria
5	Jane is anxious about accommodation: - Lives on second floor, no lift, has difficulty managing stairs. - Household rugs may be creating a hazard. - Mr Bell is housebound	(A) (B) (C)	Jane state is less anxious about accommodation. Timescale - 2 days. Home assessment/ requirements identified. Plans for help in operation. Timescale - Prior to discharge.	5	(1). Discuss with Jane the possibility of a home visit. (2). Liaise with: - Occupational Therapy Department. - Social Work Department. as appropriate.	Accommodation needs review in light of safety issue and appropriateness of this accommodation for: 1)- An individual who is housebound (Mr Bell) 2)- An individual who has osteoarthritis and finds managing stairs difficult.	Feedback - Jane states is less anxious. Feedback from departments. Documentation- Discharge plan.
6	Jane is deaf (left ear) occasionally has difficulty hearing what is said. - Wears a battery operated hearing aid.		Jane demonstrates ability to hear normal conversation. Timescale - 1 day	6	(1). Check hearing aid in situ and functioning daily. (2). Ensure spare batteries available. (3). Speak clearly, slowly and at normal pitch, when communicating with Jane. (4). Ensure Jane can lip read. (5). Sit towards (R) side. (6). May need referral; hearing test/balance test. Liaise with medical staff.	Malfunctioning hearing aid is a common problem and easily remedied. To speak in a raised voice has little beneficial effect, it may be interpreted as an act of aggression and can create a painful sensation in the affected ear. (Murphy 1987 ; Gilhome Herbst 1991). Dizzy episodes possibly linked with auditory problem (Thompson et al 1986).	Feedback - Jane states ability to hear normal conversation. Observation- Jane's ability to hear/participate in conversation. Feedback from medical staff/referrals.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

S P E C I M E N

	Problems		Aims/Goals		Nursing Action	Rationale	Evaluation Criteria
7	Jane has occasionally been unable to reach the toilet in time. Following her morning medication - frusemide 40mg.	(A) (B)	Jane states is not anxious about getting to the toilet on time. Jane gets to toilet before voiding takes place. Timescale - 4 days.	7	(1). Ensure Jane is within easy access of toilet facilities and gets there on time. (2). Teach and encourage Jane to record and report any problem episodes. (3). Discuss problem with medical staff/ incontinence advisor.	Jane will need to be situated within easy reach of toilet facilities while on ward. frusemide is a fast acting loop diuretic/ diuresis begins after 30-60 minutes. An alternative may be required. (Cartwright and Smith 1988; Govoni et al 1990). Important to help confirm whether problem is associated with medication and/or mobility issues or has other underlying cause. (Norton 1987; Ruff and Reaves 1989).	Feedback: - Jane states is less anxious. Documentation of progress and any problem episodes.
8	Mouth ulcers. Possibly due to ill fitting dentures. - Three small but painful ulcers on bottom gum. - Dentures seem too big. - Enjoys vegetables but sometimes "makes eating them difficult".	(A) (B) (C)	Jane states she is able to eat without difficulty. Gums show signs of healing. No recurrence of ulcers. Timescale - 5 days.	8	(1). Discuss with Jane the importance of oral care (6 hourly minimum). (2). Revise with Jane effective oral care. Thoroughly clean dentures followed by antiseptic mouth wash. (3). Assess ulcer daily: - Size. - Surrounding gums for inflammation. (4). Assess implications for eating and drinking and plan diet accordingly. (5). Discuss with Jane the importance of a diet rich in vitamins. (6). Assess need for a prescribed vitamin supplement . Liaise with medical staff. (7). Dental referral. (8). Local anaesthetic to help soothe painful gums. Liaise with medical staff.	Revision of effective oral care to help promote healthy gums. Ill fitting dentures and mouth ulcers combined may pose problems particularly when eating solids. Link between mouth ulcer formation and vitamin deficiency. (Shepherd et al. 1987; Brunner and Suddarth 1989).	Feedback - Jane states less difficult to eat. Dental referral report. Observation- Diet adequate and eating satisfactorily. Sore assessment data - size reduced. Dental report.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

SPECIMEN

	Problems		Aims/Goals		Nursing Action	Rationale	Evaluation Criteria
9	Bowels not opened for four days. - Usually opened every day. - Senokot taken daily. - Diet: enjoys vegetables but difficulty eating them due to ill filling dentures. - Fluid intake: drinks tea.	(A)	Jane states her bowel pattern has returned to its normal daily pattern. Timescale - 7 days.	9	(1). Discuss with Jane the problems associated with the long term use of senokot. (2). Discuss the importance of maintaining her high fibre diet, including fresh fruit, vegetables and pulses to help promote normal bowel function. (3). Discuss the importance of maintaining optimum levels of activity/exercise. (4). Encourage adequate fluid intake (1.5 2 litres/24 hours) - (5). Laxatives as prescribed (if required). Suppositories/micralax enema as prescribed (if required). (6). If constipation persists, liaise with medical staff regarding further investigation. (7). Record bowel actions daily.	Concerned with the issue of dependency. Lack of dietary fibre, poor fluid intake and inactivity may precipitate constipation. (Roper et al. 1985; Norton 1991). May be reluctant to drink due to urinary incontinence.	Feedback - Jane states bowel habits returned to normal. Documentation- Bowel actions.

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

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Appendix IX Simulation B: Scoring Grid for Model Care Plan

PROBLEM (1)	AIMS/GOALS	NURSING ACTION	RATIONALE	EVALUATION CRITERIA	
Dizzy episodes 3 ☐	States no longer dizzy 2.5 ☐	Record and monitor dizzy episodes 1.5 ☐	Digoxin, frusemide, ibuprofen may cause dizziness 2 ☐	Feedback, observation, documentation:	Redundant data ☐
Problem prioritised 2 ☐	No falls 2 ☐	Time of onset 1 ☐	Reduce risk of falls 1 ☐	Incidence of falls/ dizziness 1 ☐	Unsafe Practice ☐
Cause- possibly medication 1 ☐	BP. within normal range .5 ☐	Duration 1 ☐	Postural hypotension may cause dizziness 1 ☐	- Level of dizziness 2 ☐	
BASELINES	Maintain normal cardiac output .5 ☐	Precipitating factors 1 ☐	Bradycardia, potential side effect of digoxin 1 ☐	Understanding medication regime 2 ☐	
Dizzy episodes/3 months 1 ☐	Timescale- 5 days .5 ☐	Pulse .5 ☐	Pulmonary oedema secondary to heart failure 1 ☐	Monitor effect, side-effects of medication 2 ☐	
Fall 1 week prior to admission 1 ☐	Client centred 2 ☐	BP: Lying/Standing .5 ☐	Effective monitoring of diuresis/fluid retention 1 ☐	Absence of heart failure .5 ☐	
Admission: BP $^{120}/_{90}$ .5 ☐	Measurable 2 ☐	Nurse call bell .5 ☐	Appropriate knowledge base 3 ☐	Recorded BP .5 ☐	
P. 76 .5 ☐		Inform staff/ Accompany when unsafe .5 ☐		Recorded P .5 ☐	
R. 18 .5 ☐		Hospital protocol re. fall .5 ☐		Recorded R .5 ☐	
Wt. 65kg .5 ☐		4 hrly BP .5 ☐		Fluid intake/ output .5 ☐	
		Pulse 4 hrly, take for one minute. If below 60, take apical pulse, notify medical staff .5 ☐		Recorded Weight .5 ☐	
		Respiratory rate 4 hrly .5 ☐			
		Monitor fluid intake .5 ☐			
		Daily weight .5 ☐			
		Monitor ankles for swelling .5 ☐			
Total	Total	Total	Total	Total	Total

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

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PROBLEM (2).	AIMS/GOALS	NURSING ACTION	RATIONALE	EVALUATION CRITERIA	
Unsure of reason for admission 4 ☐	States reason for admission 3 ☐	Opportunity to ask questions 3 ☐	Link between uncertainty/ anxiety 3 ☐	States reason for admission 5 ☐	Redundant data ☐
Problem prioritised 2 ☐	States familiar with ward/ hospital environment 2.5 ☐	Orientate to ward/ hospital 1.5 ☐	Negative effects of anxiety on health status 2 ☐	Observation- degree of orientation 5 ☐	Unsafe Practice ☐
	Timescale (1-2 days) .5 ☐	Explain link between drugs and dizzy actions 2 ☐	Changes in hospital environment over 20 year period 2 ☐		
BASELINES	Client centred 2 ☐	Need to investigate 1.5 ☐	Appropriate knowledge base 3 ☐		
Not sure why admitted 1.5 ☐	Measurable 2 ☐	Holistic Approach 2 ☐			
'Mystery to Jane' .5 ☐					
Last hospital admission - 20 years 1.5 ☐					
Everything looks 'so different' .5 ☐					
Total	Total	Total	Total	Total	Total

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

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PROBLEM (3).	AIMS/GOALS	NURSING ACTION	RATIONALE	EVALUATION CRITERIA	
Anxiety re how husband will cope 4 ☐	States feels less anxious 2.5 ☐	Discuss with Jane/daughter ability to help 3 ☐	Daughter visiting only 2 days, service input required 4 ☐	States less anxious 5 ☐	Redundant data ☐
Problem prioritised 2 ☐ **BASELINES**	Ensure Mr Bell is not at risk 1.5 ☐	Discuss arrangements: GP 1 ☐	Negative effects of anxiety 3 ☐	Referral documentation 5 ☐	Unsafe Practice ☐
Insulin dependent diabetic 1.5 ☐	Provide services as required 1.5 ☐	District nurse 1 ☐	Knowledge base 3 ☐		
Insulin administered by Jane twice a day 1 ☐	Timescale (2 days) .5 ☐	Meals on wheels 1 ☐			
Jane responsible for shopping and cooking .5 ☐	Client centred 2 ☐	Home help 1 ☐			
No services .5 ☐	Measurable 2 ☐	Arrange 1 ☐			
Daughter to visit 2 days .5 ☐		Participation in Care 2 ☐			
Total	Total	Total	Total	Total	Total

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

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PROBLEM (4).	**AIMS/GOALS**	**NURSING ACTION**	**RATIONALE**	**EVALUATION CRITERIA**	
Painful knees 3 ☐	States is pain free 3 ☐	Liaise with Jane regarding pain management 1 ☐	Baseline needed to measure pain relief 2 ☐	States is pain free 3 ☐	Redundant data ☐
Cause- due to arthritis 1 ☐	Demonstrates steady gait on flat/stairs 2.5 ☐	Assess pain 1 ☐	Use of pain assessment tool to monitor pain relief, enhance 'partnership' in care 2 ☐	Pain assessment rating 3 ☐	Unsafe Practice ☐
Problem prioritised 2 ☐	Timescale (3 days) .5 ☐	Type .5 ☐	Effective prescribed analgesia reduce need to purchase OTC drugs 1 ☐	Observation/ documentation of:	
BASELINES	Client centred 2 ☐	Onset .5 ☐	Potential gastric irritation linked with drug therapy 1 ☐	- Comfort level when mobilising/at rest 2 ☐	
'Nagging ache' in knees 1 ☐	Measurable 2 ☐	Duration .5 ☐	Possible loss of confidence following fall 1 ☐	-Mobility level 2 ☐	
Walks with stick, left at home 1 ☐		Range of Movement .5 ☐	Appropriate knowledge base 3 ☐		
Difficulty with stairs 1 ☐		Liaise with medical staff re. analgesia .5 ☐			
Prescribed ibuprofen 200mg TDS .5 ☐		Analgesia as prescribed .5 ☐			
Aspirin - 4 a day .5 ☐		Monitor effectiveness .5 ☐			
		Use of pain assessment tool .5 ☐			
		Telephone daughter re. stick .5 ☐			
		Liaise with physiotherapy re loan of stick .5 ☐			
		Physiotherapy referral .5 ☐			
		Assist mobilisation .5 ☐			
		Participation in care 2 ☐			
Total	Total	Total	Total	Total	Total

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

SPECIMEN

PROBLEM (5).	AIMS/GOALS	NURSING ACTION	RATIONALE	EVALUATION CRITERIA	
Anxiety about accommodation 4 ☐ Problem prioritised 2 ☐ **BASELINES** Mr. Bell housebound 1.5 ☐ Difficulty managing stairs 1 ☐ Lives on second floor .5 ☐ No lift .5 ☐ Household rugs - hazard .5 ☐	States is less anxious 2 ☐ Home assessment 2 ☐ Plan for help 1.5 ☐ Timescale (2 days/prior to discharge) .5 ☐ Client centred 2 ☐ Measurable 2 ☐	Discuss home visit 5 ☐ Liaise with occupational therapy department 2.5 ☐ Liaise with social work department 2.5 ☐	Review needed: Negative effects of anxiety 3 ☐ Mr Bell house-bound 2 ☐ Jane has difficulty managing stairs 2 ☐ Knowledge base 3 ☐	States is less anxious 4 ☐ Feedback from departments 3 ☐ Documentation-Discharge plan 3 ☐	Redundant data ☐ Unsafe Practice ☐
Total	Total	Total	Total	Total	Total

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

SPECIMEN

PROBLEM (6).	**AIMS/GOALS**	**NURSING ACTION**	**RATIONALE**	**EVALUATION CRITERIA**	
Deafness 6 ☐ BASELINES Occasional difficulty hearing what is said 2 ☐ Wears hearing aid 2 ☐	Demonstrates ability to hear normal conversation 5.5 ☐ Timescale (1 day) .5 ☐ Client centred 2 ☐ Measurable 2 ☐	Check hearing aid in situ 2 ☐ Spare batteries 1 ☐ Speak slowly 1 ☐ Speak clearly 1 ☐ Normal pitch 1 ☐ Ensure can lip read/ Sit towards (R) side 1 ☐ Liaise with medical staff re. referral 1 ☐ Hearing test 1 ☐ Balance test 1 ☐	Malfunctioning hearing aid common 2 ☐ To speak in raised voice - no beneficial effect 2 ☐ Dizzy episodes may be linked with auditory problems 2 ☐ May cause painful sensation 1 ☐ Appropriate knowledge base 3 ☐	States able to hear normal conversation 4 ☐ Observation- Jane's ability to hear/participate in conversation 4 ☐ Feedback from medical staff/referrals 2 ☐	Redundant data ☐ Unsafe Practice ☐
Total	Total	Total	Total	Total	Total

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

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PROBLEM (7).	**AIMS/GOALS**	**NURSING ACTION**	**RATIONALE**	**EVALUATION CRITERIA**	
On occasion unable to reach toilet in time following medication 6 ☐	Not anxious re reaching toilet 3 ☐	Ensure within reach of toilet 3 ☐	Need to be situated near toilet 3 ☐	States is less anxious 5 ☐	Redundant data ☐
BASELINES	Reaches toilet before voiding occurs 2.5 ☐	Record problem episodes 2 ☐	Frusemide - fast acting diuretic alternative may be required 2 ☐	Documentation of progress and problem episodes 5 ☐	Unsafe Practice ☐
Frusemide 40mg 4 ☐	Timescale (4 days) .5 ☐	Discuss with medical staff/continence adviser 2 ☐	Important to confirm if problem has other cause 2 ☐		
	Client centred 2 ☐	MSU 1 ☐	Appropriate knowledge base 3 ☐		
	Measurable 2 ☐	Holistic Approach 2 ☐			
Total	Total	Total	Total	Total	Total

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

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PROBLEM (8).	**AIMS/GOALS**	**NURSING ACTION**	**RATIONALE**	**EVALUATION CRITERIA**	
Mouth ulcers 5 ☐ Cause- possibly ill-fitting dentures 1 ☐ BASELINES 3 small, painful ulcers 1.5 ☐ Dentures too large 1.5 ☐ Enjoys vegetables .5 ☐ Eating vegetables difficult .5 ☐	Promote healing 2 ☐ Prevent recurrence 2 ☐ Able to eat without difficulty 1.5 ☐ Timescale (5 days) .5 ☐ Client centred 2 ☐ Measurable 2 ☐	Discuss importance of oral care 3 ☐ Revise/Promote effective oral care 3 ☐ Assess ulcers daily .5 ☐ Size .5 ☐ Inflammation .5 ☐ Assess implications for eating/drinking .5 ☐ Discuss dietary vitamin intake .5 ☐ Assess need for vitamin supplement .5 ☐ Dental referral .5 ☐ Liaise with medical staff re. local anaesthetic .5 ☐	Promote healthy gums 3 ☐ Ill fitting dentures/ulcers may pose eating problems 2 ☐ Link between mouth ulcers and vitamin deficiency 2 ☐ Appropriate knowledge base 3 ☐	States less difficult to eat 3 ☐ Observation- diet adequate and eating satisfactorily 3 ☐ Sore assessment data - size reduced 3 ☐ Dental referral report 1 ☐	Redundant data ☐ Unsafe Practice ☐
Total	Total	Total	Total	Total	Total

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

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PROBLEM (9).	**AIMS/GOALS**	**NURSING ACTION**	**RATIONALE**	**EVALUATION CRITERIA**	
Bowels not opened for four days 6 ☐ **BASELINES** Open daily 1.5 ☐ Senokot daily 1.5 ☐ Enjoys vegetables/ Difficulty eating vegetables due to dentures .5 ☐ Drinks tea .5 ☐	Bowel action returned to normal 5.5 ☐ Timescale (3 days) .5 ☐ Client centred 2 ☐ Measurable 2 ☐	Discuss problem of habitual use of senokot 2 ☐ High fibre diet 1 ☐ Exercise 1 ☐ Fluid intake (1.5 - 2 litres/ 24 hrs) 1 ☐ Laxatives 1 ☐ Suppositories 1 ☐ Enema 1 ☐ Liaise with medical staff re future investigations 1 ☐ Record bowel action daily 1 ☐	Link between low fibre/fluid intake and constipation 2.5 ☐ Possible reluctance to drink due to incontinence 2.5 ☐ Dependency issue 2 ☐ Appropriate knowledge base 3 ☐	States bowel habit normal 5 ☐ Documentation- bowel actions 5 ☐	Redundant data ☐ Unsafe Practice ☐
Total	Total	Total	Total	Total	Total

King's Simulation Care Planning Exercise (While, Roberts and Fitzpatrick, 1992)

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Appendix X King's Nurse Performance Scale and Recording Sheets

RATER: **DATE:**

☐ **NURSE CODE NUMBER**

TIME OF DAY:
☐ **Morning**
☐ **Afternoon**
☐ **Evening**

REPORTS:
☐ **Change-of-shift**
☐ **Multidisciplinary Team**
Other

GRADE MIX:
am **pm**
☐ **Sister/C.N**
☐ **RGN**
☐ **EN**

Student Nurse:
☐ **Year One**
☐ **Year Two**
☐ **Year Three**
☐ **Year Four**

☐ **Post-reg**
☐ **Health Care Assistant**
☐ **Auxiliary**
☐ **Agency/Bank RGN**
☐ **Agency/Bank EN**
☐ **Agency/Bank Health Care Assistant**
☐ **Agency/Bank Auxiliary**
☐ **Other**
☐ **No off sick**

WARD INFORMATION:

TYPE OF WARD: ☐

NO OF BEDS: ☐

LAYOUT OF WARD:

ORGANISATION OF NURSING:
☐ **Primary Nursing**
☐ **Team Nursing**
☐ **Patient Allocation**
Other:

WARD ATMOSPHERE:

INTERACTIONS TOTAL

OUTCOMES:

☐ **Sum of weighted total**
☐ **Total No. of ratings**
☐ **Total mean score**

OTHER PERTINENT DATA:
(eg. cardiac arrest, death, alterations in skill-mix during shift, nurse involved in clinical assessment).

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Modified Wandelt and Ager (1974)

King's Nurse Performance Scale and Recording Sheets (While, Fitzpatrick and Roberts, 1992)

Patient Dependency Sheet (Barr, 1964)

Classify each patient in the ward as:

Group 1	Self-care.	Score- 1.
Group 2	Intermediate.	Score- 2.
Group 3	Intensive care:- Unconscious, 'specialled'(requiring the care of a nurse continuously) or having 3 of the following (or 2 if over 70 years old): i). Nasogastric feeding. ii). Intravenous fluids. iii). Suction. iv). Oxygen therapy. v). Drainage.systems.	Score- 5.

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Calculate the number of patients in each dependency group.

Calculate the total number of patients in the ward.

Calculate the total patient dependency score for the ward.

Field Notes:
Place an asterisk at the bed number which corresponds to those patients for whom the nurse (ratee) is caring and make notes below regarding their age, sex, diagnosis and care needs. Record details of changes in patient dependency status which occur during the period of observation, for example, a patient going to theatre may be scored 2 but on return to the ward may be scored 3. Also make a record of patient discharges and admissions.

PATIENT (BED No)	GROUP	SCORE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

No of Patients in: Group 1

Group 2

Group 3

Total No of Patients:

Total Patient Dependency Score For the Ward:

Field Notes:

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Interaction/ Intervention (care event) record

Nurse Code No: **Date:**

Observer:

Observation: Morning/ Afternoon/ Evening (circle).

Event No.	Time:	Content of Event

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Modified Wandelt and Ager (1974)

King's Nurse Performance Scale

Nurse code number: ☐ **Date:** ☐

Observer: ☐

Physical Domain

Actions directed towards meeting physical needs of individual patients.

SPECIMEN

	Item Number	Independent	Assisted	Marginal	Dependent	Omitted	Mean Score
1. Encourages patient to rest and exercise, as appropriate. (D)	1.						
2. Attends to patient's personal cleansing and dressing needs, where appropriate. (D)	2.						
3. Ensures patient's elimination needs are met. (D)	3.						
4. Ensures patient receives fluid intake as appropriate. (D)	4.						
5. Encourages patient to take diet as appropriate. (D)	5.						
6. Carries out the safe administration of intravenous/parenteral fluids. (D)	6.						
7. Carries out the safe administration of medications. (D)	7.						
8. Acts to maintain a safe environment for patient/others. (D)	8.						

King's Nurse Performance Scale (While, Fitzpatrick and Roberts, 1992)

Physical Domain

Actions directed towards meeting physical needs of individual patients.

	Item Number	Independent	Assisted	Marginal	Dependent	Omitted	Mean Score
9. Demonstrates an understanding of aseptic procedure. (D)	9.						
10. Identifies behavioural and physiological changes due to drugs. (D)	10.						
11. Acts to provide relief for the physically distressed patient. (D)	11.						
12. Identifies physical symptoms and physical changes in patient. (D)	12.						
Area I Mean							
Psychosocial Domain Actions directed toward meeting psychosocial needs of patients.							
13. Provides for diversional activities suitable to patient's capabilities and needs, where appropriate. (D)	13.						
14. Attends to or helps appropriately the distressed/emotional state of the patient. (D)	14.						

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King's Nurse Performance Scale (While, Fitzpatrick and Roberts, 1992)

Physical Domain

Actions directed towards meeting physical needs of individual patients.

	Item Number	Independent	Assisted	Marginal	Dependent	Omitted	Mean Score
15. Conducts self with same professional demeanour when caring for an unconscious or non-orientated patient as when caring for a conscious patient. (D)	15.						
16. Gives verbal/written evidence of insight into patient's psychosocial needs/problems. (D/I)	16.						
17. Is alert to patient's spiritual or religious needs. (D)	17.						
Area II Mean							
Professional Implications Performance reflects initiative and responsibility indicative of professional expectations.							
18. Is creative in her/his approach to care delivery. (D)	18.						
19. Complies with statutory regulations/hospital policies; questions as appropriate. (D)	19.						
20. Contributes to hand-over reports/staff meetings. (D)	20.						

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King's Nurse Performance Scale (While, Fitzpatrick and Roberts, 1992)

Physical Domain Actions directed towards meeting physical needs of individual patients.	Item Number	Independent	Assisted	Marginal	Dependent	Omitted	Mean Score
21. Cares for assigned patients; knows where and how they are. (D)	21.						
22. Is reliable; seeks guidance/help when necessary. (D)	22.						
23. Is self-directing; takes initiative. (D)	23.						
Area III Mean							
Promotion of Health and Teaching Skills Actions directed toward meeting the knowledge needs of self, patients and others.							
24. Utilizes patient/ family/ significant others' teaching opportunities. (D)	24.						
25. Utilizes staff teaching opportunities. (D)	25.						
26. Assesses factors which may influence patient/ family/ significant others/staff learning prior to teaching/information giving. (D)	26.						

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King's Nurse Performance Scale (While, Fitzpatrick and Roberts, 1992)

Physical Domain

Actions directed towards meeting physical needs of individual patients.

	Item Number	Independent	Assisted	Marginal	Dependent	Omitted	Mean Score
27. Provides information in a comprehensible way to patient/ family/ significant others/staff. (D)	27.						
Area IV Mean							
Care Management Skills and the Organisation of Workload							
28. Distributes her/his time appropriately between her/his allocated patients. (D)	28.						
29. Adapts care to patient's physical and mental abilities. (D)	29.						
30. Responds appropriately in emergency situations. (D)	30.						
31. Delegates responsibility for nursing care based on assessment of patient needs and the abilities of available nursing staff. (D)	31.						
32. Is a constructive team member and leader where appropriate. (D)	32.						

King's Nurse Performance Scale (While, Fitzpatrick and Roberts, 1992)

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Physical Domain

Actions directed towards meeting physical needs of individual patients.

	Item Number	Independent	Assisted	Marginal	Dependent	Omitted	Mean Score
33. Contributes as nurse member of multidisciplinary team caring for patient. (D)	33.						
Area V Mean							
Communication Skills Communication with or on behalf of individual patients/others.							
34. Spends time with patient as appropriate. (D)	34.						
35. Establishes rapport with patient/ family/ significant others. (D)	35.						
36. Attends to patient's needs through the use of referrals, where appropriate, to: a). Departments in the hospital b). Community agencies. (D)	36.						
37. Communicates clearly in writing about patient. (I)	37.						

King's Nurse Performance Scale (While, Fitzpatrick and Roberts, 1992)

SPECIMEN

Physical Domain

Actions directed towards meeting physical needs of individual patients.

	Item Number	Independent	Assisted	Marginal	Dependent	Omitted	Mean Score
38. Communicates clearly in speech about patient. (D)	38.						
Area VI Mean							
Use of the Nursing Process in Planning Care							
39. Documents patient problems in care plan. (I)	39.						
40. Distinguishes between: a). Actual patient problems b). Potential patient problems. (D/I)	40.						
41. Sets priorities when planning patient care. (D/I)	41.						
42. Makes problem statements in consultation with the patient/ family/ significant others, where appropriate. (D/I)	42.						
43. Includes, where appropriate: a). Long term goals b). Short term goals. (D/I)	43.						

King's Nurse Performance Scale (While, Fitzpatrick and Roberts, 1992)

SPECIMEN

Physical Domain

Actions directed towards meeting physical needs of individual patients.

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	Item Number	Independent	Assisted	Marginal	Dependent	Omitted	Mean Score
44. Consults patient/ family/ significant others about relevant goals, where appropriate. (D)	44.						
45. Documents goals in terms of patient/ family/ significant others' outcomes. (I)	45.						
46. Documents planned nursing actions in detail, where detail is possible and appropriate. (I)	46.						
47. Consults patient/ family/ significant others about planned nursing actions, where appropriate. (D)	47.						
48. Incorporates research findings, where they exist, into planning/implementation of care. (D/I)	48.						
49. Incorporates measures of patient progress in care plan, where possible and appropriate. (I)	49.						
50. Includes times and/or dates for evaluation of patient problems. (I)	50.						
51. Includes patient/ family/ significant others in evaluation, where appropriate. (D)	51.						

King's Nurse Performance Scale (While, Fitzpatrick and Roberts, 1992)

Physical Domain

Actions directed towards meeting physical needs of individual patients.

	Item Number	Independent	Assisted	Marginal	Dependent	Omitted	Mean Score
52. Modifies care plan according to results of evaluation of patient problems. (I)	52.						
53. Bases written progress nursing reports upon the evaluation of patient problems and goals. (I)	53.						
Area VII Mean							
Total weighted sum **Total No. of ratings**							
Total mean score							

King's Nurse Performance Scale (While, Fitzpatrick and Roberts, 1992)

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Appendix XI King's Nurse Performance Scale: Cue Sheet

Physical Domain

Actions directed toward meeting physical needs of individual patients.

1. Encourages patient to rest and exercise, as appropriate.

i). Teaches patient the importance of rest following his/her myocardial infarction.

ii). Performs passive and active exercises for patient as demonstrated by the physiotherapist.

2. Attends to patient's personal cleansing and dressing needs, where appropriate.

i). Performs oral care for the unconscious patient.

ii). Notes any evidence of pressure sores or skin discolouration.

iii). Refers patient to occupational therapist regarding dressing aids.

3. Ensures patient's elimination needs are met.

i). Ensures privacy for toilet habits.

ii). Allocates patient with urinary frequency to a bed close to a toilet.

4. Ensures patient receives fluid intake as appropriate.

i). Ensures intravenous fluid is administered according to regimen.

ii). Acts upon the evidence of a maintained intake and output chart.

5. Encourages patient to take diet as appropriate.

i). Administers nasogastric feed according to regimen.

ii). Makes note of patient who has refused meal and offers supplementary drinks, for example, build-ups.

iii). Finds out why patient will not eat.

6. Carries out the safe administration of intravenous/ parenteral fluids.

i). Checks infusion fluid and container for any obvious faults.

ii). Observes site of insertion and patency of intravenous line.

7. Carries out the safe administration of medication.

i). Ensures correctness of prescription and container information (legible and clear).

ii). Ensures medication is to be administered to the patient for whom it has been prescribed.

8. Acts to maintain a safe environment for patient/others.

i). Informs other staff of threats made by patients to harm themselves or others.

ii). Makes sure that transportation equipment is safe- labels it unsafe if repairs are needed- obtains safe equipment.

King's Nurse Performance Scale: Cue Sheet (While, Fitzpatrick and Roberts, 1992).

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9. Demonstrates an understanding of aseptic procedure.

i). Performs wound dressing using aseptic procedure.

ii). Practices effective hand washing technique before and following nursing interventions, for example, between physical care interventions for different patients.

10. Identifies behavioural and physiological changes due to drugs.

i). Notices drug induced skin reaction, withholds medication and informs medical staff.

ii). Liaises with medical staff re patient's complaint of drug-associated nausea.

iii). Re-evaluates patient's pain following the administration of analgesic.

11. Acts to provide relief for the physically distressed patient.

i). Notes signs of pain - restlessness, facial contortion, and acts to alleviate; administers analgesic as prescribed, changes patient position.

ii). Notes cramping position of extremities, changes position and provides supports for maintenance of good body alignment.

12. Identifies physical symptoms and physical changes in patient.

i). Post-operative hypertensive episode - checks for bleeding, records vital observations.

ii). Notes tissue discolouration over bony prominences; increases frequency of turning and alleviates pressure from areas.

Psychosocial Domain

Actions directed toward meeting the psychosocial needs of individual patients.

13. Provides for diversional activities suitable to patient's capabilities and needs, where appropriate.

i). Elicits information regarding working and playing habits.

ii). Encourages patient to participate in diversional activities; for example, those related to their work or hobbies.

14. Attends to or helps appropriately the distressed/ emotional state of the patient.

i). Spends time with or arranges to have someone to stay with patient.

ii). Encourages patient to express and reflect upon her/his feelings.

15. Conducts self with same professional demeanour when caring for an unconscious or non-orientated patient as when caring for a conscious patient.

i). Seeks help in lifting and handling patient and performs this safely and gently.

ii). Continues to speak to patient and address by name.

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King's Nurse Performance Scale: Cue Sheet (While, Fitzpatrick and Roberts, 1992)

16. Gives verbal written evidence of insight into patient's psychosocial needs/problems.

i). Records and acts upon information from family regarding dying patient's fear of pain.

ii). If desired, helps patient to reflect upon the meaning of her/ his illness/ disability.

iii). Explores concerns expressed by patient.

17. Is alert to patient's spiritual or religious needs.

i). If desired, patient/ family/ significant others have access to appropriate religious representative.

ii). Ensures patient privacy for spiritual reflection.

Professional Implications

Performance reflects initiative and responsibility indicative of professional expectations

18. Is creative in her/his approach to care delivery.

i). Demonstrates flexibility and originality within resource constraints.

ii). Demonstrates an innovative approach in all aspects of role performance, for example, in teaching.

19. Complies with statutory regulations/hospital policies; questions as appropriate.

i). Adheres to hospital policy regarding pre-operative preparation for patient and documentation.

ii). Administers medication according to statutory regulations and hospital policy.

20. Contributes to hand-over reports/staff meetings.

i). Reports on patient's current condition and nursing care given during the shift.

ii). Reports on research findings which could be implemented in practice.

21. Cares for assigned patients/ knows where and how they are.

i). Visits all assigned patients to ascertain their condition before beginning the work of the day.

ii). Knows current condition of all assigned patients and can report plans of care for each.

22. Is reliable; seeks guidance when necessary.

i). Views situation her/his self, for example, checks the condition of very ill patients in preparation for change over of shift.

ii). Carries out instructions, questions appropriately, and provides feedback to nurse-in-charge.

23. Is self directing; takes initiative.

i). Notices that intravenous fluid is infiltrating tissue; stops flow and informs medical staff.

ii). Contacts senior personnel to report staffing levels that could endanger patient safety.

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King's Nurse Performance Scale: Cue Sheet (While, Fitzpatrick and Roberts, 1992)

Promotion of Health and Teaching Skills

Actions directed toward meeting the knowledge needs of self, patients and others.

24. Utilizes patient/ family/ significant others' teaching opportunities.

i). Discusses with patient the medications which s/he will be taking on discharge.

ii). In preparation for discharge, shows patient how to perform her/ his catheter care.

iii). Responds to family's direct/ indirect questions regarding patient's pending investigation.

25. Utilizes staff teaching opportunities.

i). Responds to direct request for information at the time, for example, student request for explanation of CVP reading.

ii). Contributes to multidisciplinary teaching sessions.

26. Assesses factors which may influence patient/ family/significant others/staff' learning prior to teaching/information-giving.

i). Determines individual's level of knowledge regarding the topic.

ii). Takes into consideration individual's culture, language and level of motivation.

27. Provides information in a comprehensible way to patient/ family/staff.

i). Uses effective communication skills; jargon-free language, clarification and questioning.

ii). Uses teaching aids and resource materials.

Care Management Skills and the Organisation of Workload

28. Distributes her/his time appropriately between her/his allocated patients.

i). Assesses and prioritises needs of allocated patients.

ii). Determines priorities with each allocated patient, where appropriate.

29. Adapts care to patient's physical and mental abilities.

i). Ensures that patient understands care procedure in which s/he is to be involved and what is expected.

ii). Allows time for patient with right-sided weakness to progress as far as possible with dressing her/himself.

30. Responds appropriately in emergency situations.

i). Alerts other staff members of cardiac arrest whilst remaining with patient.

ii). Waits for adequate assistance before lifting patient who has fallen.

King's Nurse Performance Scale: Cue Sheet (While, Fitzpatrick and Roberts, 1992)

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31. Delegates responsibility for nursing care based on assessment of patient needs and the abilities of available nursing staff.

i). Explains and defines in clear terms the nursing objectives to be met for the day considering priority needs.

32. Is a constructive team member and leader where appropriate.

i). Supports and facilitates team decision making.

ii). Assists team to evaluate work accomplished and to plan continued work.

33. Contributes as nurse member of multidisciplinary team caring for patient.

i). Discusses patient's condition and treatment rationale to date with other health team members.

ii). Coordinates the plan of nursing care with the medical plan of care.

Communication Skills

Communication with or on behalf of individual patients and others.

34. Spends time with patient as appropriate.

i). Gives communication with patient priority, as appropriate.

ii). Recognises the importance of just 'being' with a patient.

35. Establishes rapport with patient/ family/ significant others.

i). Introduces self to patient and others and explains the purpose of the relationship.

ii). Provides care and treatment activities at times that will least interfere with visiting family and friends.

36. Attends to patient's needs through the use of referrals, where appropriate, to:

a). Departments in the hospital.

b). Community agencies.

i). Consults with social worker regarding discharge planning for elderly person who has no relations and lives alone.

ii). Refers patient with rheumatoid arthritis to occupational therapist for adapted cutlery to maximise independence at meal times.

37. Communicates clearly in writing about patient.

i). Charts observations accurately.

ii). Produces concise, relevant and detailed assessment documentation, care plan and progress notes.

38. Communicates clearly in speech about patient.

i). Provides concise and accurate description of patient's condition.

Use of the Nursing Process in Care Planning

39. Documents patient problems in care plan

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King's Nurse Performance Scale: Cue Sheet (While, Fitzpatrick and Roberts, 1992)

40. Distinguishes between:
a). Actual patient problems
b). Potential patient problems.

41. Sets priorities when planning care for patient.

42. Makes problem statements in consultation with the patient/ family/ significant others, where appropriate.

43.Includes, where appropriate:
a). Long term goals
b). Short term goals.

44. Consults patient/ family/ significant others about relevant goals, where appropriate.

45. Documents goals in terms of patient/ family/ significant others' outcomes.

46. Documents planned nursing actions in detail, where detail is possible and appropriate.

47. Consults patient/ family/ significant others about planned nursing actions, where appropriate.

48. Incorporates research findings, where they exist, into planned care.
i). In relation to pressure area care.
ii). In relation to limb positioning of the patient who has suffered a cerebrovascular accident.

49. Incorporates measures of patient progress in care plan, where possible and appropriate.
i). Records baseline measurements of leg ulcer and measures consistently on set evaluation dates.
ii). Uses scale to assess patient's pain level at set evaluation times.

50. Includes times and/or dates for evaluation of patient problems.

51. Includes patient/ family/ significant others in evaluation, where appropriate.

52. Modifies care plan according to results of evaluation of patient problems.

53. Bases written progress nursing reports upon the evaluation of patient problems and goals.

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King's Nurse Performance Scale: Cue Sheet (While, Fitzpatrick and Roberts, 1992)

Appendix XII King's Nurse Performance Scale: Rating Criteria

SCALE LABEL	PROFESSIONAL STANDARD	QUALITY OF PERFORMANCE	ASSISTANCE REQUIRED
Independent	Safe Accurate Effect- each time. Affect- each time.	- Proficient; co- ordinated; confident. - No expenditure of excess energy. - Within an expedient time period.	Without supporting cues.
Assisted	Safe Accurate- each time. Effect- most of the time. Affect- most of the time.	- Skilful in parts of behaviour. Inefficiency and lack of co-ordination. - Occasional expenditure of excess energy. - Within a delayed time period.	Occasional verbal and physical directive cues in addition to supportive ones.
Marginal	Safe but not alone. Accurate- not always. Effect- occasionally. Affect- occasionally.	- Unskilled; inefficient. - Considerable expenditure of excess energy. - Prolonged time period.	Frequent verbal and physical directive cues.
Dependent	Unsafe. Unable to demonstrate behaviour.	- Unable to demonstrate procedure/behaviour. - Lacks confidence, co-ordination, efficiency.	Continuous verbal and physical directive cues.
Omitted	Nurse does not perform actions that, given the needs of patient/others are appropriate.		

Modified Bondy (1983)

King's Nurse Performance Scale: Rating Criteria (While, Fitzpatrick and Roberts, 1992)

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Appendix XIII King's Nurse Performance Scale: Guidelines for Administration

Introduction

The Nurse Performance Rating Scale consists of 53 items which identify actions performed by nurses as they provide care for patients, either in direct nurse-patient interactions/interventions (care events) or in other interactions/interventions (care events). It builds upon the Slater Nursing Performance Rating Scale (Wandelt and Stewart, 1975) and reflects current criteria and goals for nursing practice. The 53 items are divided into 7 categories of nurse performance, namely: physical domain, psychosocial domain, professional implications, promotion of health and teaching skills, care management skills and the organisation of workload, communication skills and use of the nursing process in planning care. The Nurse Performance Scale is also accompanied by an additional information sheet, a patient dependency sheet, an event record and a cue sheet.

The additional information sheet

The information face sheet is provided for recording adjunct data about factors which may influence the quality of nurse performance. The following information is recorded in the additional information sheet:

i. The organisation of nursing care.

ii. The grade and number of each category of nurse working on the ward at the time of observation.

iii. Ward information: speciality, layout and number of beds.

iv. General impressions regarding the ward atmosphere.

v. Any other information considered pertinent, for example, ward crises, alterations in staffing levels during the observation period.

In addition, notes are made of the observer's identity, the participant's code number, the date and time of the observation shift and patient hand-overs listened to.

Modified Wandelt and Ager (1974); Wandelt and Stewart (1975)

King's Nurse Performance Scale: Rating Criteria (While, Fitzpatrick and Roberts, 1992)

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Patient Dependency Sheet

Each patient in the ward is classified in a dependency category: (Barr, 1964)

Group 1	Self-care.	Score 1.
Group 2	Intermediate.	Score 2.
Group 3	Intensive care:	Score 5.

(Patients classified as group 3 are those who are unconscious, "specialled" or having 3 of the following: nasogastric feeding, intravenous fluids, suction, oxygen therapy, drainage system).

Notes are also made of patient discharges/admissions where it is considered potentially relevant to the participant's performance. The total number of patients in the ward, the number of patients in each dependency group and a total dependency score for the ward are calculated.

Interaction/ intervention (care event) record

In this table information is recorded regarding care events to facilitate the rating process. Events are numbered, the time of onset is noted and notes are made regarding the content of each event.

Cue Sheet

i. The cues are concrete examples of care events.

ii. They are examples of actions that permit ascribing a rating to one or more items.

iii. The cues are not rated.

iv. Ratings should not be limited to care events listed in the cue sheet but should be ascribed to any nursing actions performed/ omitted with or on behalf of patients/others.

Modified Wandelt and Ager (1974); Wandelt and Stewart (1975)

King's Nurse Performance Scale: Rating Criteria (While, Fitzpatrick and Roberts, 1992)

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The Nurse Performance Scale

i. The participant's code number, observer and date are noted.

ii. Items relevant to care events are rated using a modified version of Bondy's (1983) criterion-referenced rating scale (independent, assisted, marginal and dependent), omissions are noted in a separate column.

iii. A symbol following each item serves as an added point of reference for the observer:

(D). The kind of care event that will usually be rated by direct observation.

(I). A care event the rating of which will usually be indirect, for example, a notation in the nursing records.

(D/I). A care event the rating of which may be either direct or indirect.

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The observation process

The standard of measurement

The standard of measurement, as defined by Wandelt and Stewart (1975), is:

"the quality of performance of care expected of a first level staff nurse" (pxiii)

and is held constant for all measurements made with the scale. A first level staff nurse is one who is charged with responsibility for providing nursing care that is safe, adequate, therapeutic and supportive in meeting the needs of patients (Wandelt and Stewart, 1975). Redfern et al (1994) considered 'newly qualified' to be an adequate substitute for 'first level'. In this study the standard of measurement was also considered taking into account the thirteen learning outcomes of Statutory Instrument No 1456 (1989) and the requirements of the Code of Professional Conduct (UKCC, 1992).

Defining an interaction/ intervention (care event)

To enable observers to identify behaviour clearly in the practice setting and to select and rate appropriate items, agreement regarding what constitutes a care event is necessary.

Modified Wandelt and Ager (1974); Wandelt and Stewart (1975)

King's Nurse Performance Scale: Rating Criteria (While, Fitzpatrick and Roberts, 1992)

It was agreed that single interactions are those which indicate a unity and oneness and when the participant's attention continues to be focused on a key issue, for example, discussing medication with a client. If an interruption in continuity occurs then the next interaction is treated separately from the last. For example, items to be considered when focusing upon drug administration as an event may include those related to the actual drug administration procedure, safety, policy directives, maintaining written records and information-giving to clients.

Introduction to the participant

i. Explain that observation will continue for a period of 2 $^{1}/2$ hours.

ii. Request that the participant proceed with care and activities "as usual".

iii. Request that the participant introduce the observer to patient(s), as appropriate.

iv. Explain that the observer will not interact with the participant or others during the period of observation. The observer must remain uninvolved in the care of patients in all but emergency situations, for example, to prevent a patient from falling out of bed.

v. Reassure the participant of confidentiality and anonymity.

Learning about those patients for whom the participant will be caring

i. Listen to any verbal reports given by the nursing staff about those patients for whom the participant will be caring, for example change-of-shift reports. If this is not possible, request a patient hand-over or read relevant patients' nursing records.

ii. Consider the patients' needs (immediate and long term).

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Modified Wandelt and Ager (1974); Wandelt and Stewart (1975)

King's Nurse Performance Scale: Rating Criteria (While, Fitzpatrick and Roberts, 1992)

The Process of Rating

i. Whilst observing a care event the observer will judge the performance against the standard of measurement taking into consideration:

a. The professional standard of the performance in terms of safety (for patient, participant and others), accuracy, effect and affect.

b. The quality of the performance as reflected in the use of time, space, equipment and energy.

c. The type and degree of assistance required to perform the activity effectively.

ii. The observer will then select and rate items relevant to the care event in the column corresponding to the selected level of performance. The same item may be repeatedly identified and rated during the entire observation period.

Care Events Occurring in Rapid Succession

In considering the issue of care events occurring in rapid succession, the instructions detailed in the Slater Scale manual (Wandelt and Stewart, 1975) and Qualpacs manual (Wandelt and Ager, 1974) proved invaluable. In the Slater Scale manual one suggestion was note-making, during 'on-the-spot' observation, to promote recall of events so that other items may be rated later when time was available. It was also noted that usually 5-6 items per event are rated before one moves onto the next event. When the observation period is complete one then: "reviews the items and on the basis of notes and recall, add ratings for items not already scored and additional ones for items with earlier ratings" (Wandelt and Ager, 1974 p38).

In this study, when events occurred in rapid succession, notes were completed in the care event record for those events for which rating of items had not been finished due to insufficient time. Observers proceeded to make notes about and score subsequent events. At an appropriate time the observer returned to complete rating of events as necessary.

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Modified Wandelt and Ager (1974); Wandelt and Stewart (1975)

King's Nurse Performance Scale: Rating Criteria (While, Fitzpatrick and Roberts, 1992)

On completion of the observation session observers also examined the entire schedule as a means of enhancing data comprehensiveness and ensuring a fair and objective representation of participant performance.

Field notes

Field notes are also made regarding any particular events which reflected high, low and typical nurse performance.

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Appendix XIV **Interview Face Sheet**

Introduction to participant

The interview is the third and final element of the study. I would like to talk with you for a short while to learn about your nursing experiences. Whatever you say is completely confidential and anonymity is ensured at all stages throughout the study. There are no right or wrong answers, I am interested in hearing about your nursing experiences from your own perspective and your contribution and time are very much appreciated. Please interrupt if something seems unclear. The interview will take about half an hour. It would be helpful if I could tape-record our conversation because then I won't have to make lots of notes and we can talk freely. Is that alright with you?

Appendix XV Interview Schedule

1. I would like to ask you to think of things which have happened during the period of your nursing course that you think have been particularly significant to the way you nurse.

Can you tell me a bit more about this?
Why was this particularly important to you?

Has anything else happened during the period of your nursing course that you think has been particularly significant to the way you nurse?

*2. Can you think of a time when someone you have worked with did something that struck you as an example of good nursing practice.

Why did it strike you as being an example of good nursing?
What was the most important thing about what this person did?

*3. Think of a time when someone you have worked with did something that struck you as an example of nursing practice that was not quite what it should be; when it was not quite up to par.

Can you tell me a bit more about this?
What else was going on at the time?
Why did this strike you as being an example of nursing that was not as it should be?
What was the worst thing about what happened?
What could s/he have done instead?
Why do you think this happened?
How might this be prevented from happening another time?

4. What things do you consider are important to your nursing practice?

Can you tell me a bit more about this?
Why do you think this is important?
How might this influence nursing practice?

What other things do you consider important to your nursing practice?

* Redfern et al (1994)

5. You are nearing the end of your course now and have alot to offer to nursing in terms of the knowledge and experience which you have gained over this period of time. Thinking about your own nursing practice, what do you consider to be your strong points, things which you think you are particularly good at?

Can you tell me a bit about this?
What do you think has facilitated this?

6. You have identified things which you feel confident about. Is there anything which you feel less confident about?

Can you tell me a bit about this?
What do you think could have helped you with this?

7. Over time we all meet people who we think have helped us to develop as a nurse or have influenced our nursing practice in some way. Can you think of anyone who has helped or influenced your nursing practice?

Can you tell me about her/him?
Why have you singled her/him out?
Can you give me an example of something that s/he did that made you think this?
Can you tell me a bit more about this?
What else was going on at the time?
Why was s/he like that do you think?
Could s/he have done it any better?
In what way could s/he have done that better?
Is there anything else about this person which made you single her/him out?

You have talked in some detail about what you consider influences your nursing practice. Is there anything else that you would like to add?

Thank you very much for your all your help.

Appendix XVI Interview Data Explored with Highest Educational Qualification and Centre

Interview Data Explored with Highest Educational Qualification

Participants' Views of their Practice Strengths

Focus of identified practice strengths	4-9 O GCSEs	1> A Levels	Row total
Personal attributes/ interpersonal skills	10	31	41
Developing a therapeutic relationship with clients/ others	8	30	38
Effective/ appropriate/ safe clinical practice	6	20	26
Effective professional relationships with nursing colleagues/ other health care professionals	1	21	22
Developing/maintaining knowledge/ practice skills	2	12	14
Client assessment and education	5	8	13
Social communication with clients/others	3	10	13
Caring for clients as biopsychosocial beings	0	7	7
Meeting the physical/ comfort needs of clients	1	4	5
Skills in caring for a particular client group	0	2	2
Uncodable	1	0	1
Column total	37	145	327
Sample size	21	77	98

* a multiple-response question with 3 potential answers

Participants' Views Regarding Facilitators of Perceived Practice Strengths

Facilitators of identified practice strengths	**4-9 GCSEs**	**1 > A Levels**	**Row total**
Drawing upon the philosophy/ content of programme of preparation	11	30	41
Personal domain	10	28	38
Learning through practice over time	2	21	23
Drawing upon the expertise of practitioners	7	13	20
Confidence building experiences	2	18	20
Life experiences	1	18	19
Other	1	2	3
Uncodable	1	1	2
Column total	35	131	166
Sample size	21	77	98

* a multiple-response question with 3 potential answers

Participants' Perceived Confidence Deficits

Perceived confidence deficits	**4-9 GCSEs**	**1> A Levels**	**Row total**
Management issues	12	29	41
Nursing skills performance	10	30	40
Cognitive domain	4	16	20
Anxieties regarding unfamiliar experiences	4	9	13
Professional relationships with nursing colleagues/ other health care professionals	1	9	10
Personal domain	0	7	7
Other	0	3	3
Column total	31	103	134
Sample size	21	76	97

* a multiple-response question with 2 potential answers

Strategies Identified by Participants to Address Perceived Confidence Deficits

Identified strategies to address perceived confidence deficits	**4-9 GCSEs**	**1> A Levels**	**Row total**
Maximising student learning opportunities in the practice environment	10	31	41
Improvement over time	3	23	26
Continuing professional/ personal development	4	14	18
Modification of course content	8	9	17
Additional practice placements and/or allocations of longer duration	6	7	13
Supervision as a staff nurse	1	2	3
Unclear	0	3	3
Column total	32	89	121
Sample size	21	70	91

* a multiple-response question with 2 potential answers

Significant Persons Considered to have Influenced Participants' Development/ Practice as Nurses

Significant persons	**4-9 GCSEs**	**1> A Level**	**Row total**
Nurse practitioner (institutional setting)	12	40	52
Mentor in practice environment	3	15	18
Teacher from the educational setting	2	16	18
Nurse practitioner (non-institutional setting)	3	1	4
Unqualified nursing staff	2	2	4
Others	2	6	8
Column total	24	80	104
Sample size	21	70	91

* a multiple-response question with 2 potential answers

Interview Data Explored with Centre

Participants' Views of their Practice Strengths

Focus of identified practice strengths	Centre A	Centre C	Centre D	Centre B	Centre E	Centre I	Centre F	Centre G	Centre H	Row total
Personal attributes/ interpersonal skills	7	4	5	6	5	3	3	4	4	41
Developing a therapeutic relationship with clients/ others	3	4	4	5	6	2	5	6	3	38
Effective/ appropriate/ safe clinical practice	4	1	6	3	2	2	3	3	2	26
Effective professional relationships with nursing colleagues/ other health care professionals	5	2	2	2	0	2	2	2	5	22
Developing/ maintaining knowledge/ practice skills	2	0	1	2	2	3	1	2	1	14
Social communication with clients/others	1	2	1	1	0	5	1	0	2	13
Client assessment and education	0	0	1	4	1	1	2	2	2	13
Caring for clients as biopsychosocial beings	0	2	2	0	2	0	0	1	0	7
Meeting the physical/ comfort needs of clients	1	2	0	0	1	1	0	0	0	5
Skills in caring for a particular client group	1	0	0	0	0	0	0	1	0	2
Uncodable	0	1	0	0	0	0	0	0	0	1
Sample size	12	10	11	13	10	11	9	12	10	98

* a multiple-response question with 3 potential answers

Participants' Views Regarding Facilitators of Perceived Practice Strengths

Facilitators of identified practice strengths	**Centre A**	**Centre C**	**Centre D**	**Centre B**	**Centre E**	**Centre I**	**Centre F**	**Centre G**	**Centre H**	**Row total**
Drawing upon the philosophy/ content of programme of preparation	2	0	5	6	8	4	3	8	5	41
Personal domain	6	4	6	9	0	4	3	2	4	38
Learning through practice over time	5	2	5	0	2	2	2	2	3	23
Confidence building experiences	5	2	2	1	2	2	2	2	2	20
Drawing upon the expertise of practitioners	4	2	3	3	1	1	3	2	1	20
Life experiences	2	3	0	2	1	4	3	3	1	19
Other	1	1	0	1	0	0	0	0	0	3
Uncodable	0	1	0	0	0	0	0	1	0	2
Sample size	12	10	11	13	10	11	9	11	10	98

* a multiple-response question with 3 potential answers

Participants' Perceived Confidence Deficits

Perceived confidence deficits	**Centre A**	**Centre C**	**Centre D**	**Centre B**	**Centre E**	**Centre I**	**Centre F**	**Centre G**	**Centre H**	**Row total**
Nursing skills performance	4	3	4	4	8	6	6	4	4	43
Management issues	6	3	7	7	4	4	3	4	3	41
Cognitive domain	2	3	4	4	0	3	1	3	0	20
Anxieties regarding unfamiliar experiences	1	1	1	4	3	0	1	0	2	13
Professional relationships with nursing colleagues/ other health care professionals	3	0	0	1	1	1	0	2	2	10
Personal Domain	1	1	0	0	0	0	2	2	1	7
Other	0	0	1	0	0	0	2	0	0	3
Sample size	13	9	11	13	10	10	9	12	10	97

* a multiple-response question with 2 potential answers

Strategies Identified by Participants to Address Perceived Confidence Deficits

Identified strategies to address perceived confidence deficits	**Centre A**	**Centre C**	**Centre D**	**Centre B**	**Centre E**	**Centre I**	**Centre F**	**Centre G**	**Centre H**	**Row total**
Maximising student learning opportunities in the practice environment	5	3	8	4	7	4	5	2	3	41
Improvement over time	3	1	3	2	3	2	2	7	3	26
Continuing professional/ personal development	3	2	1	3	1	1	2	3	2	18
Modification of course content	0	3	5	5	2	1	1	0	0	17
Additional practice placements and/or allocations of longer duration	1	0	0	5	3	3	0	1	0	13
Supervision as a staff nurse	0	1	0	1	1	0	0	0	0	3
Unclear	1	0	0	0	0	1	1	0	0	3
Sample size	11	8	11	12	n0	10	9	12	8	91

* a multiple-response question with 2 potential answers

Significant Persons Considered to have Influenced Participants' Development/ Practice as Nurses

Significant persons	**Centre A**	**Centre C**	**Centre D**	**Centre B**	**Centre E**	**Centre I**	**Centre F**	**Centre G**	**Centre H**	**Row total**
Practitioners	9	9	10	13	7	9	9	4	7	73
Teacher within the educational setting	1	0	1	0	3	0	3	7	3	18
Others	1	1	1	2	1	0	1	0	2	9
Sample size	9	10	11	13	10	9	9	11	9	91

* a multiple-response question with 2 potential answers.

Appendix XVII **Intended and Actual Outcomes**

RGN Programme Intended outcomes:	**Evidence of outcomes:**			
	Simulation A: Information-Seeking	**Simulation B: Care Plan**	**Non-participant observation**	**Interview**
Advise re. health promotion			• Similar to P2000 programme but significantly lower than integrated degree programme for promotion of health and teaching skills.	
Carry out comprehensive nursing assessment	• Multifocal approach. • Use of Roper et al model.	• Significantly higher global care plan score than P2000 programme.	• Similar to P2000 programme but significantly lower than integrated degree programme for use of the nursing process in planning care.	• Personal attributes/ interpersonal skills; developing a therapeutic relationship with clients were identified as perceived practice strengths.
Recognise significance of observations	• Many physical health status requests.	• Significantly higher global care plan score than P2000 programme.	• Similar to P2000 programme but significantly lower than integrated degree programme for global score.	
Devise plan of nursing care		• Significantly higher global care plan score than P2000 programme.	• Similar to P2000 programme but significantly lower than integrated degree programme for use of the nursing process in planning care.	
Implement planned nursing care	• Significantly more data requests regarding immediate nurse's role.		• Similar to P2000 programme but significantly lower than integrated degree programme for global score.	• Effective/appropriate/ safe clinical practice was identified as a perceived practice strength.
Teach and co-ordinate caring team			• Similar to integrated degree and P2000 programmes for care management skills and the organisation of workload.	• Within team management/ leadership was identified as a perceived confidence deficit.
Review effectiveness of nursing care		• Similar to P2000 and RGN programmes.	• Similar to P2000 programme but significantly lower than integrated degree programme regarding use of the nursing process in planning care.	
Work in a health care team			• Similar to P2000 and integrated degree programmes for care management skills and the organisation of workload.	
Manage care of a group of patients and organise appropriate support services	• Similar to P2000 and RGN programmes regarding support services.		• Similar to integrated degree and P2000 programmes for care management skills and the organisation of workload.	

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Integrated degree programme Intended outcomes:	**Evidence of outcomes:**			
	Simulation A: Information-Seeking	**Simulation B: Care Plan**	**Non-participant observation**	**Interview**
Advise re. health promotion			• Significantly higher observation score compared to RGN and P2000 programmes for promotion of health and teaching skills.	
Carry out comprehensive nursing assessment	• Multifocal approach. • Role of family and significant others. • More systematic approach.	• Significantly higher global care plan score than P2000 programme.	• Significantly higher observation score compared to RGN and P2000 programmes for use of the nursing process in planning care.	• Developing a therapeutic nurse-client relationship was identified as a perceived practice strength.
Recognise significance of observations	• Many physical health status requests.	• Significantly higher global care plan score than P2000 programme.	• Significantly higher global observation score compared to RGN and P2000 programmes.	
Devise plan of nursing care		• Significantly higher global care plan score than P2000 programme.	• Significantly higher observation score compared to RGN and P2000 programmes for use of the nursing process in planning care.	
Implement planned nursing care			• Significantly higher global observation score compared to RGN and P2000 programmes.	• Identified perceived confidence deficits in the nursing skills domain.
Teach and co-ordinate caring team			• Significantly higher observation score compared to P2000 programme for care management skills and the organisation of workload.	
Review effectiveness of nursing care and initiate action as required		• Similar to P2000 and RGN programmes.	• Significantly higher global observation score compared to RGN and P2000 programmes.	
Work in a health care team			• Significantly higher observation score compared to P2000 programme for care management skills and the organisation of workload.	
Manage care of a group of patients and organise appropriate support services	• Similar to P2000 and RGN programmes regarding support services.		• Significantly higher observation score compared to P2000 programme for care management skills and the organisation of workload.	
Use research to inform practice			• Reflected in global and domain scores.	

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P2000 diploma programme Intended outcomes:	**Evidence of outcomes:**			
	Simulation A: Information-Seeking	**Simulation B: Care Plan**	**Non-participant observation**	**Interview**
Identify social and health implications of different health states		• Similar to RGN and integrated degree programmes.	• Significantly lower global score than integrated degree programme but similar to RGN programme for promotion of health and teaching skills.	
Recognise factors influencing health		• Similar to RGN and integrated degree programmes.	• Significantly lower score than integrated degree but similar to RGN programme for promotion of health and teaching skills.	
Use research to inform practice			• Reflected in global and domain scores.	
Use sound communication skills to conduct therapeutic relationships			• Significantly lower score than integrated degree programme but similar to RGN programme for communication skills.	• Personal attributes/ interpersonal skills and developing a therapeutic relationship with clients were identified as perceived practice strengths.
Identify care and health promotion needs	• Biographical data given primacy.		• Significantly lower score than integrated degree programme but similar to RGN programme for promotion of health and teaching skills.	
Use legislative framework for nursing practice			• Significantly lower global score than integrated degree and RGN programmes.	
Understand ethics of health care				
Devise, implement and evaluate a plan of care		• Lowest global scores.	• Significantly lower score than integrated degree programme but similar to RGN programme for use of the nursing process in planning care.	• Identified perceived confidence deficits within the nursing skills domain.
Function in a multi-professional team approach	• Similar to RGN and integrated degree programmes.		• Significantly lower score than integrated degree programme but similar to RGN programme for care management skills and the organisation of workload.	
Refer to others when necessary	• Similar to RGN and integrated degree programmes.		• Significantly lower score than integrated degree programme but similar to RGN programme for care management skills and the organisation of workload.	
Assign duties to others			• Significantly lower score than integrated degree programme but similar to RGN programme for care management skills and the organisation of workload.	
Supervise teach and monitor these assigned duties			• Significantly lower score than integrated degree programme but similar to RGN programme for care management skills and the organisation of workload.	

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Appendix XVIII Discussion Highlights

Research Elements	**RGN Programme**	**P2000 Diploma Programme**	**Integrated Degree Programme**
Simulation A: Information-Seeking	• Multifocal. Focus: • Use of Roper et al's model. • Immediate nurse role data.	• Multifocal. Focus: • Client biography.	• Multifocal. Focus: • Systematic approach. • Role of family and significant others. • Previous admission data.
Simulation B: Care Plan	• Significantly higher global score than P2000. • Consistent trends in data. (Small student cohorts and strong clinical experience).	• Significantly lower global score than RGN and integrated degree programmes. • Consistent trends in data. (Large student cohorts and limited clinical experience).	• Significantly higher global score than P2000 programme. • Consistent trends in data. (Small student cohorts and strong clinical experience).
Non-participant observation	• Similar scores to P2000. (Reliance upon ward for learning).	• Significantly lower scores than integrated degree. (Limited practice and mentorship difficulties).	• Significantly higher global scores. • Significantly higher scores in promotion of health and teaching skills; care management skills; and the organisation of workload and use of the nursing process in planning care.
Interview	Recommended course modification	• Perceived nursing skills deficits. • Suggested more clinical experience. • Recommended course modification.	• Client focus rather than professional focus to practice. • Valued teacher support in clinical setting.